TC-V11W/V33W

SERVICE MANUAL

AEP Model
UK Model
E Model

NOTE: TC-V11W IS A DECK UNIT OF "LBT-V11W", WITHOUT REMOTE-CONTROL CIRCUIT.
TC-V33W IS A DECK UNIT OF "LBT-V33W", WITH REMOTE CONTROL CIRCUIT.

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

Tape Transport Mechanism Type	TCM-150V2(DECK B) TCM-150V3(DECK A)

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF (DIN) With TYPE IV cassette (Sony METAL-ES) 30–15,000 Hz (±3 dB) With TYPE II cassette (Sony UCX) 30–15,000 Hz (±3 dB) With TYPE I cassette (Sony HF-S) 30–14,000 Hz (±3 dB)
Wow and flutter	0.06% WRMS (NAB) ±0.2% (DIN)
Dimensions	Approx. 355 x 115 x 235 mm (w/h/d) (14 x 4⅝ x 9⅜ inches) incl. projecting parts and controls
Weight	Approx. 3.75 kg (8 lb 5 oz) net

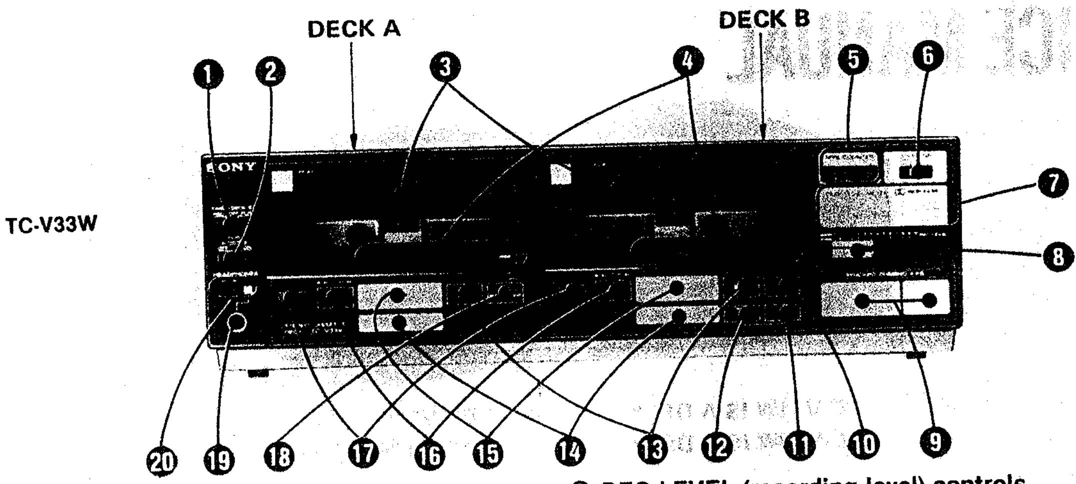
MICROFILM

STEREO CASSETTE DECK

SONY

TC

LOCATION AND FUNCTION OF CONTROLS



① TIMER switch (deck B)
Normally set to OFF. To start recording or playback automatically using an optional timer, set to REC or PLAY.

② PLAY A ⇄ B (relay play) switch
Set to ON to continuously play back the cassettes in decks A and B. Set to OFF to play back a cassette in either deck A or B.

③ Cassette holder

④ Tape operation mode indicators
The indicator(s) light(s) to show the engaged tape operation mode.

▷ : Lights during playback, recording and rewinding for auto play.
Blinks during AMS or blank skip operation.

○ : Lights when the ● REC key is pressed.

▯▯ : Lights during pause. Blinks just after the power is turned on and during record muting.

AMS/BLANK SKIP : Lights when the AMS/BLANK SKIP key is pressed.

⑤ TAPE COUNTER and reset button (deck B)
The tape counter provides a numerical reference point. To reset to zero, press the reset button.

⑥ DOLBY NR switch
Select the Dolby NR* (Noise Reduction) system to be used for recording or playback.

OFF To record or play back without the Dolby NR process.

B : To record or play back with the Dolby B-type NR process.

C : To record or play back with the Dolby C-type NR process

*Dolby and the double-D symbol are trade marks of the Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

⑦ PEAK LEVEL METERs
These meters show the peak input level of each channel during recording, and recorded levels during playback. The left-most LED of each meter lights when the power is turned on.

⑧ REC LEVEL (recording level) controls
Adjust the recording level by observing the PEAK LEVEL METERs.

⑨ SYNCHRO DUBBING A → B keys and indicators
Press one of the keys to start dubbing from deck A to B. The indicator of the key lights.

NORMAL SPEED : For normal speed dubbing.
HIGH SPEED : For high speed dubbing.

⑩ ● REC (record) key (deck B)
To start recording, keeping this key pressed, press the ▷ key.

⑪ ○ (record muting) key (deck B)

⑫ ❚❚ PAUSE key (deck B)
Press to stop the tape momentarily during recording or playback. To disengage pause mode, press it again.

⑬ ▶▶ (fast forward) key

⑭ ■ (stop) key

⑮ ▷ (play) key

⑯ ◀◀ (rewind) key

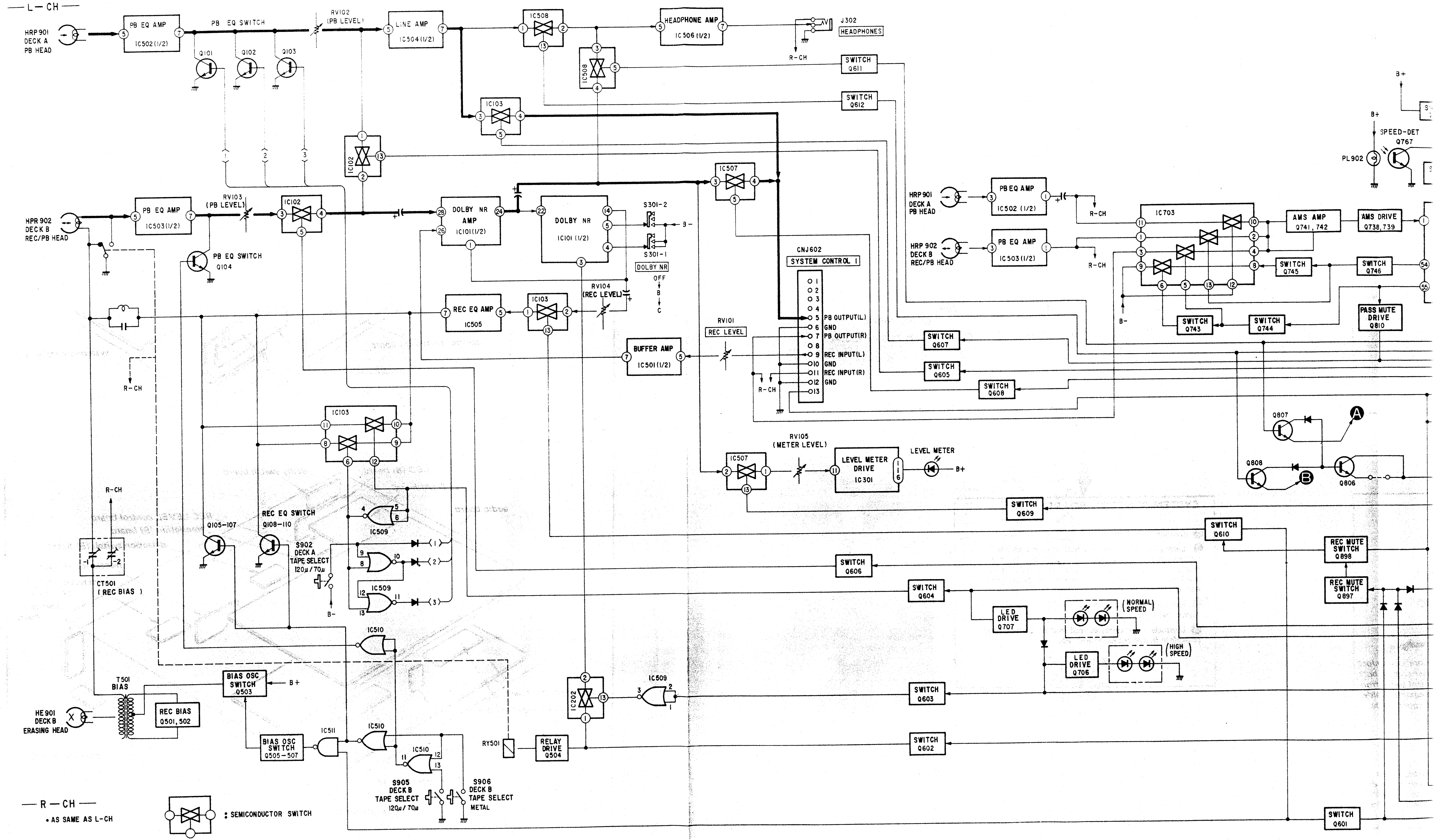
⑰ ⏏ (eject) button
Press to open the cassette holder.

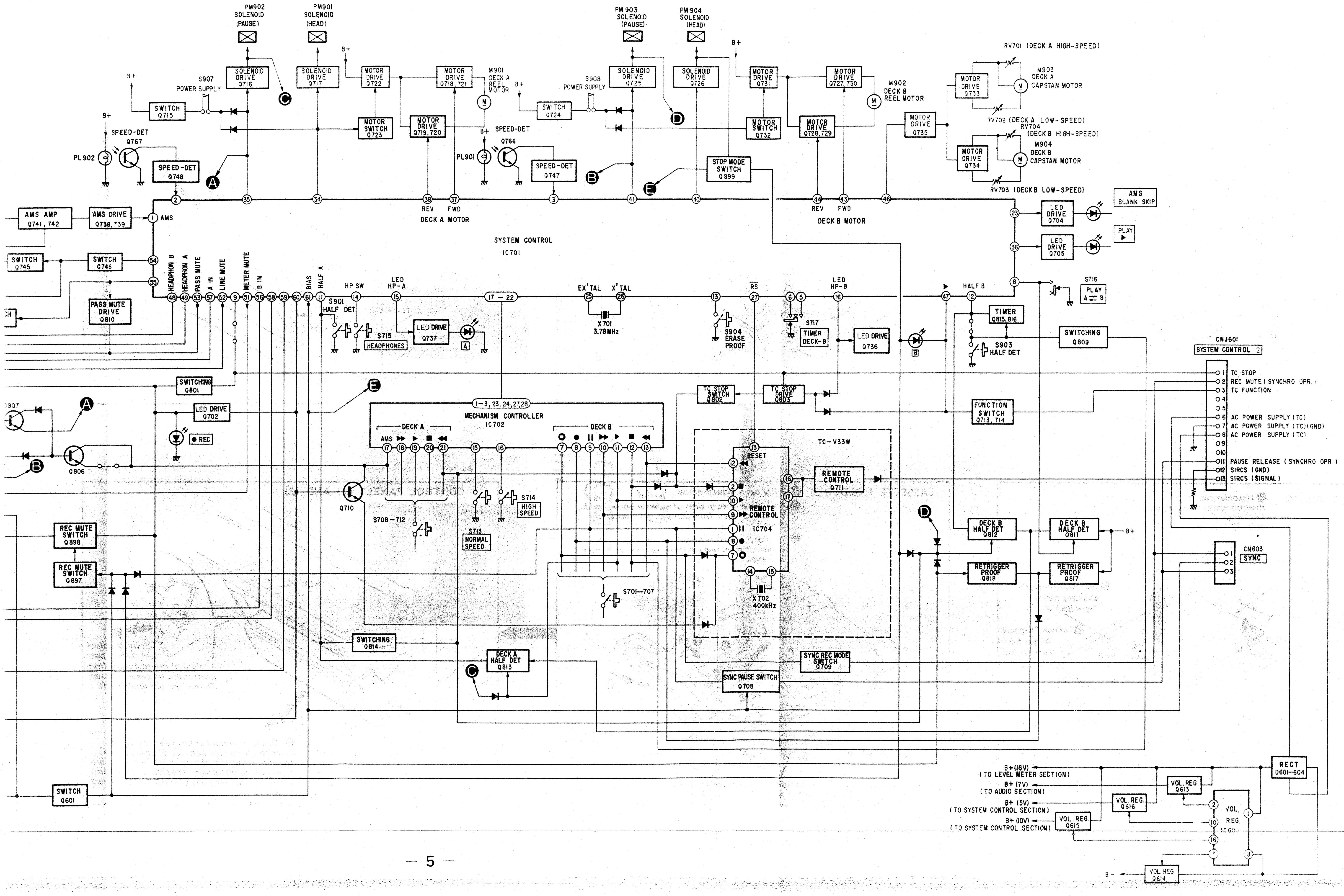
⑱ AMS/BLANK SKIP key
Press to activate the AMS (Automatic Music Sensor) and blank skip function on decks A and B. To deactivate, press the key again.

⑲ HEADPHONES jack (stereo phone jack)

⑳ HEADPHONES selector and indicators
To monitor the tape sound of deck A through headphones, press so the indicator A lights. To monitor the tape sound of deck B, press again so the indicator B lights.

1-2. BLOCK DIAGRAM


— L — CH —
HRP901 DECK A PB HEAD
PB EQ AMP IC502(1/2)
PB EQ SWITCH
Q101
Q102
Q103
RV102 (PB LEVEL)
LINE AMP IC504(1/2)
IC508
HEADPHONE AMP IC506(1/2)
J302 HEADPHONES
R-CH
SWITCH Q611
SWITCH Q612
IC103
IC102
HPR902 DECK B REC/PB HEAD
PB EQ AMP IC503(1/2)
RV103 (PB LEVEL)
PB EQ SWITCH Q104
DOLBY NR AMP IC101(1/2)
DOLBY NR IC101(1/2)
S301-2
S301-1
DOLBY NR
OFF
B
C
B-
IC507
CNJ602
SYSTEM CONTROL I
PB OUTPUT(L)
GND
PB OUTPUT(R)
REC INPUT(L)
REC INPUT(R)
RV104 (REC LEVEL)
REC EQ AMP IC505
RV101 REC LEVEL
BUFFER AMP IC501(1/2)
RV105 (METER LEVEL)
LEVEL METER DRIVE IC301
LEVEL METER
B+
REC EQ SWITCH Q108-110
Q105-107
IC509
S902 DECK A TAPE SELECT 120μ/70μ
CT501 (REC BIAS)
IC510
T501 BIAS
HE901 DECK B ERASING HEAD
BIAS OSC SWITCH Q503
REC BIAS Q501, 502
BIAS OSC SWITCH Q505-507
IC511
S905 DECK B TAPE SELECT 120μ/70μ
S906 DECK B TAPE SELECT METAL
RY501
RELAY DRIVE Q504
IC202
SWITCH Q607
SWITCH Q605
SWITCH Q608
SWITCH Q609
SWITCH Q610
SWITCH Q606
SWITCH Q604
SWITCH Q603
SWITCH Q602
SWITCH Q601
LED DRIVE Q707
LED DRIVE Q706
(NORMAL SPEED)
(HIGH SPEED)
HRP901 DECK A PB HEAD
HRP902 DECK B REC/PB HEAD
PB EQ AMP IC502 (1/2)
PB EQ AMP IC503 (1/2)
IC703
AMS AMP Q741, 742
AMS DRIVE Q738, 739
SWITCH Q745
SWITCH Q746
SWITCH Q743
SWITCH Q744
PASS MUTE DRIVE Q810
SPEED-DET Q767
PL902
Q807
Q808
Q806
A
B
REC MUTE SWITCH Q898
REC MUTE SWITCH Q897
— R — CH —
• AS SAME AS L-CH
: SEMICONDUCTOR SWITCH

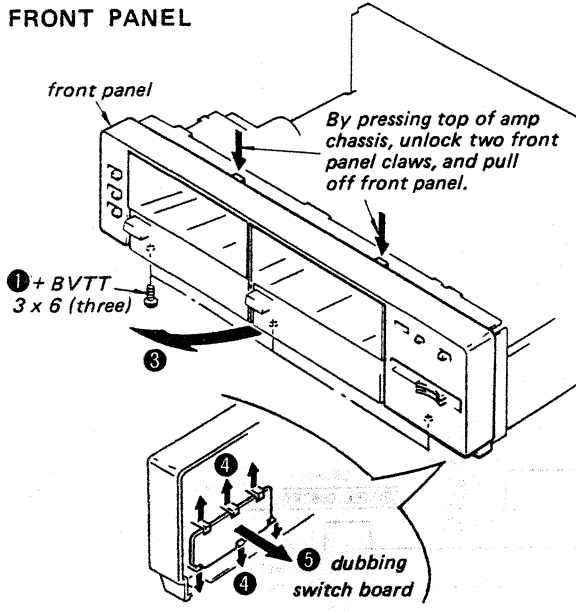

PM902 SOLENOID (PAUSE)
PM901 SOLENOID (HEAD)
SOLENOID DRIVE Q716
SOLENOID DRIVE Q717
MOTOR DRIVE Q722
MOTOR DRIVE Q718, 721
M901 DECK A REEL MOTOR
MOTOR SWITCH Q723
MOTOR DRIVE Q719, 720
S907 POWER SUPPLY
SWITCH Q715
SPEED-DET Q767
PL902
SPEED-DET Q748
PL901
SPEED-DET Q766
SPEED-DET Q747
PM 903 SOLENOID (PAUSE)
PM 904 SOLENOID (HEAD)
SOLENOID DRIVE Q725
SOLENOID DRIVE Q726
S908 POWER SUPPLY
SWITCH Q724
MOTOR DRIVE Q731
MOTOR DRIVE Q727, 730
M902 DECK B REEL MOTOR
MOTOR SWITCH Q732
MOTOR DRIVE Q728, 729
STOP MODE SWITCH Q899
MOTOR DRIVE Q735
RV701 (DECK A HIGH-SPEED)
M903 DECK A CAPSTAN MOTOR
MOTOR DRIVE Q733
RV702 (DECK A LOW-SPEED)
RV704 (DECK B HIGH-SPEED)
M904 DECK B CAPSTAN MOTOR
MOTOR DRIVE Q734
RV703 (DECK B LOW-SPEED)
B+
AMS AMP Q741, 742
AMS DRIVE Q738, 739
AMS
REV FWD DECK A MOTOR
REV FWD DECK B MOTOR
SYSTEM CONTROL IC701
AMS BLANK SKIP
LED DRIVE Q704
LED DRIVE Q705
PLAY ▶
SWITCH Q745
SWITCH Q746
PASS MUTE DRIVE Q810
HEADPHON B
HEADPHON A
PASS MUTE
A IN
LINE MUTE
METER MUTE
B IN
BIAS
HALF A
HP SW
LED HP-A
EX'TAL
X'TAL
RS
LED HP-B
HALF B
S716 PLAY A ⇄ B
S901 HALF DET
S715 HEADPHONES
LED DRIVE Q737
X701 3.78MHz
S904 ERASE PROOF
S717 TIMER DECK-B
LED DRIVE Q736
TIMER Q815, 816
S903 HALF DET
SWITCHING Q809
CNJ601 SYSTEM CONTROL 2
1 TC STOP
2 REC MUTE (SYNCHRO OPR.)
3 TC FUNCTION
4
5
6 AC POWER SUPPLY (TC)
7 AC POWER SUPPLY (TC)(GND)
8 AC POWER SUPPLY (TC)
9
10
11 PAUSE RELEASE (SYNCHRO OPR.)
12 SIRCS (GND)
13 SIRCS (SIGNAL)
SWITCHING Q801
LED DRIVE Q702
● REC
Q807
Q806
TC STOP SWITCH Q802
TC STOP DRIVE Q803
FUNCTION SWITCH Q713, 714
MECHANISM CONTROLLER IC702
DECK A
DECK B
AMS ▶▶ ▶ ■ ◀◀
○ ● ॥ ▶▶ ▶ ■ ◀◀
TC-V33W
RESET
REMOTE CONTROL IC704
REMOTE CONTROL Q711
X702 400kHz
Q710
S708—712
S713 NORMAL SPEED
S714 HIGH SPEED
S701—707
REC MUTE SWITCH Q898
REC MUTE SWITCH Q897
DECK B HALF DET Q812
DECK B HALF DET Q811
RETRIGGER PROOF Q818
RETRIGGER PROOF Q817
CN603 SYNC
SWITCHING Q814
DECK A HALF DET Q813
SYNC REC MODE SWITCH Q709
SYNC PAUSE SWITCH Q708
SWITCH Q601
RECT D601—604
B+ (16V) (TO LEVEL METER SECTION)
B+ (7V) (TO AUDIO SECTION)
B+ (5V) (TO SYSTEM CONTROL SECTION)
B+ (10V) (TO SYSTEM CONTROL SECTION)
VOL. REG. Q613
VOL. REG. Q616
VOL. REG. Q615
VOL. REG IC601
VOL REG Q614
A
B
C
D
E

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

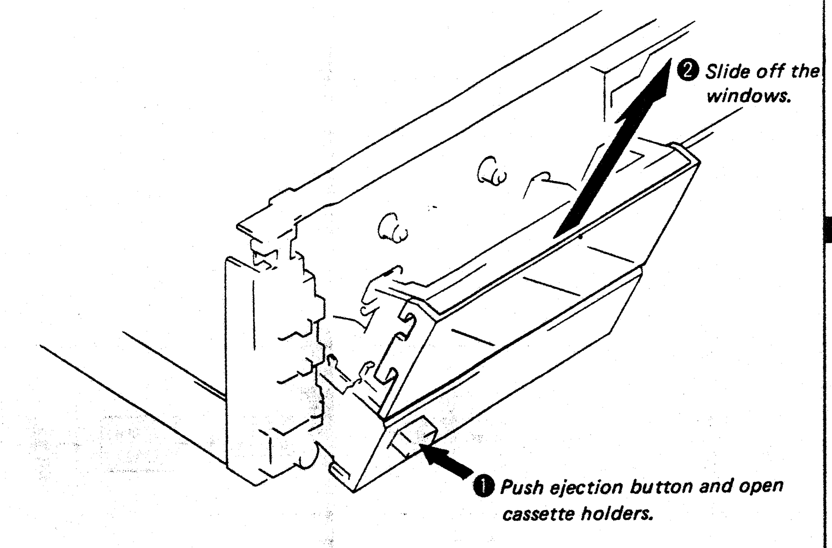
CASE
Remove four (4) M3 case screws from both sides and remove case.

FRONT PANEL


front panel
❶ + BVTT 3 x 6 (three)
❷
❸
❹
❹
❺ dubbing switch board

By pressing top of amp chassis, unlock two front panel claws, and pull off front panel.

CASSETTE WINDOWS

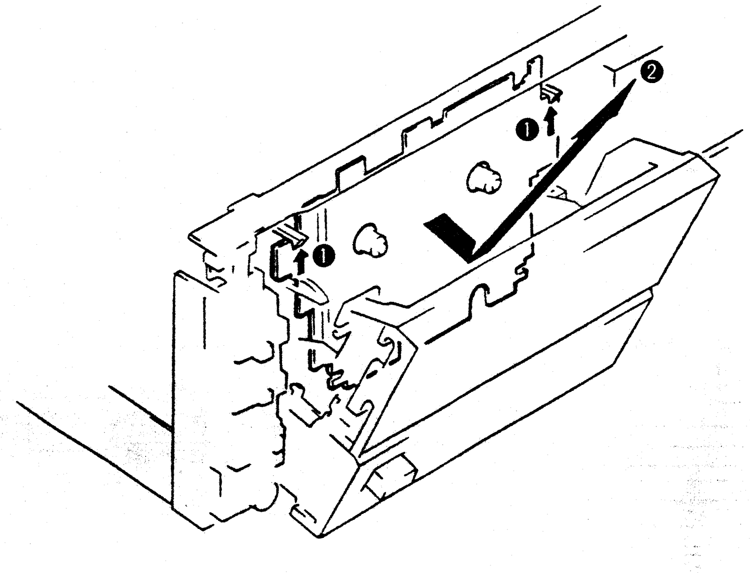


❷ Slide off the windows.

❶ Push ejection button and open cassette holders.

CASSETTE RETAINER

❶ Push two claws of mechanism chassis upwards and release cassette retainer from them.

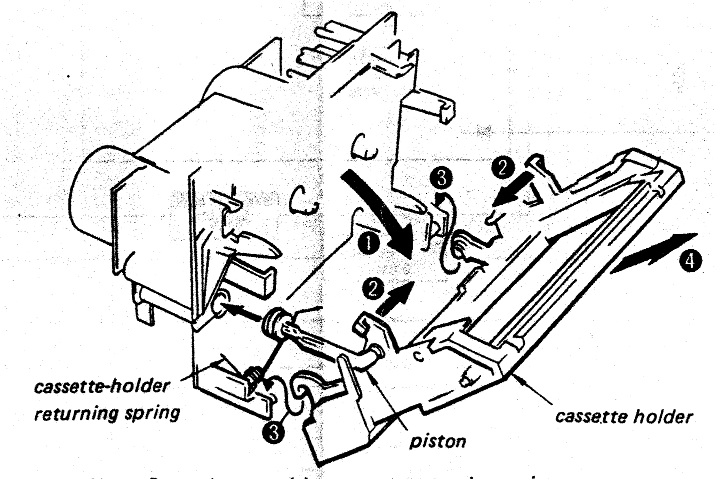


CASSETTE HOLDER(S)

❶ Fully open cassette holder.

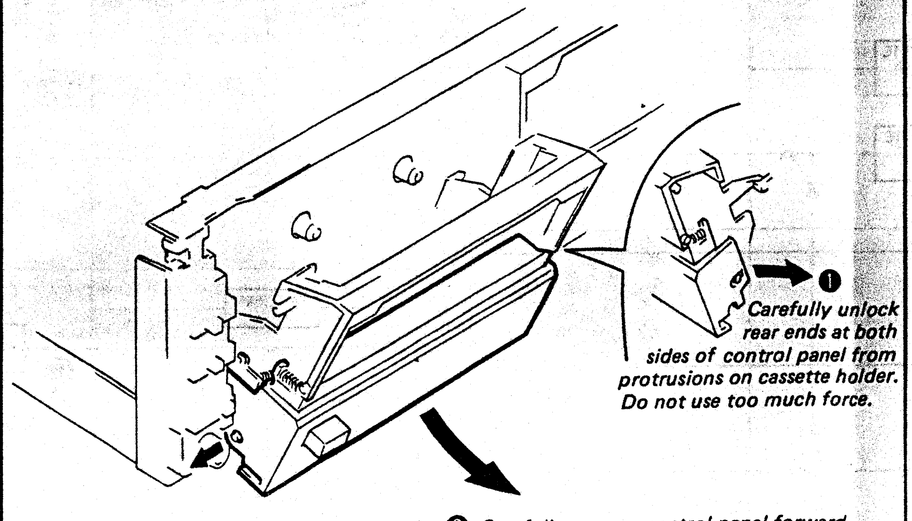
❷ Push claws at both sides of cassette holder inside, and release them from stoppers on mechanism chassis.

❸ By moving cassette holder upwards by hands, remove it from two pivotting sections at bottom-rear ends.


❶
❷
❷
❸
❸
❹
cassette-holder returning spring
piston
cassette holder

Note: Properly re-position cassette-returning spring and piston when reinstalling the cassette holder.

CONTROL PANELS (A) AND (B)

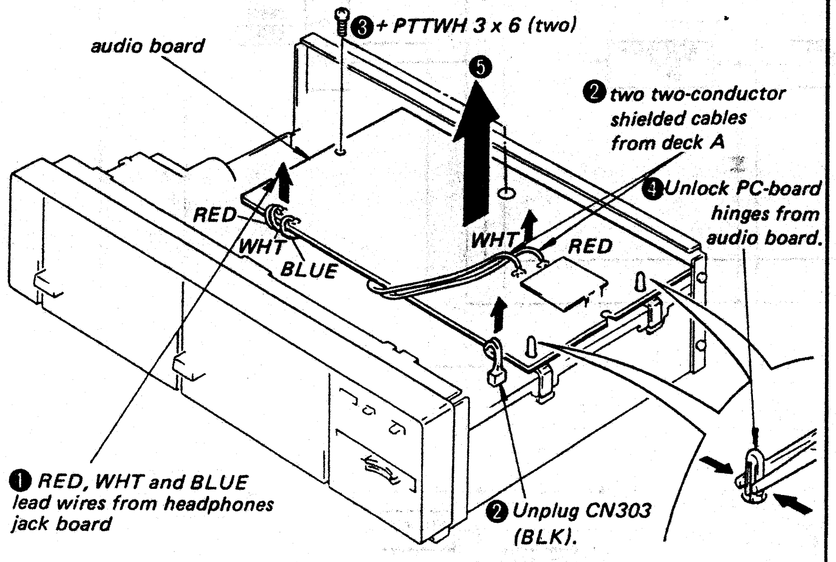


❶ Carefully unlock rear ends at both sides of control panel from protrusions on cassette holder. Do not use too much force.

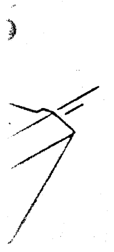
❷ Carefully remove control panel forward. Each control-switch board is mounted inside the control panel and connection lead wires are running from the board. Thus the control panel section can be hung and operative in a removed condition.

AUDIO BOARD

❶ Unsolder two (2) shielded cables from playback head of deck A and three (3) lead wires.


audio board
❸ + PTTWH 3 x 6 (two)
❺
❷ two two-conductor shielded cables from deck A
❹ Unlock PC-board hinges from audio board.
RED
WHT
BLUE
WHT
RED
❶ RED, WHT and BLUE lead wires from headphones jack board
❷ Unplug CN303 (BLK).

SYSTEM CONTROL BOARD (See page 9.)

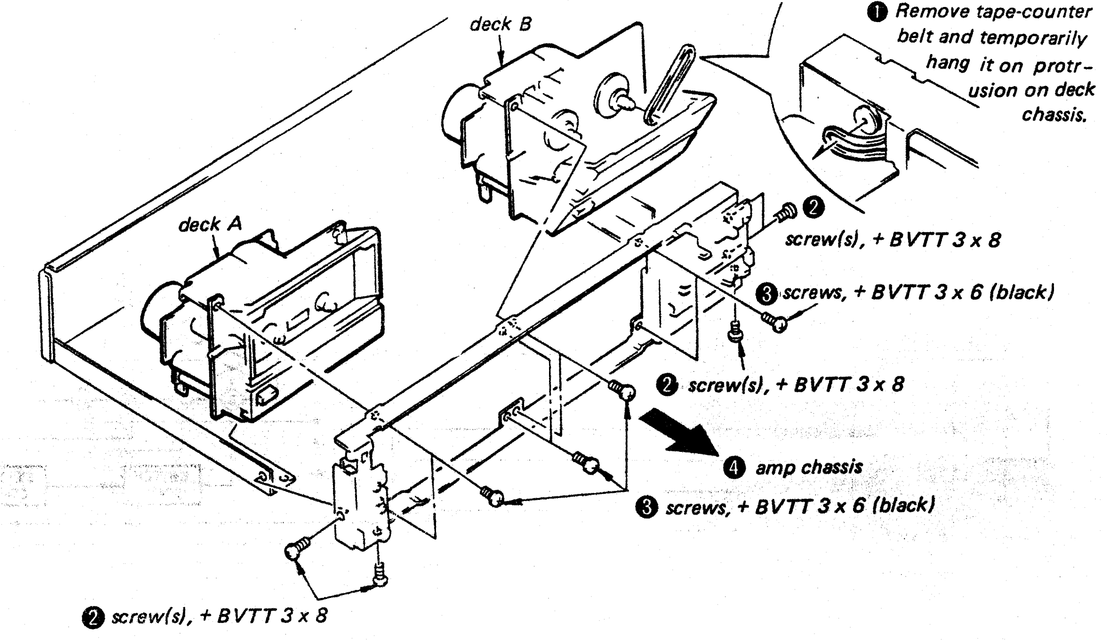


➡ ❶

Carefully unlock
rear ends at both
ntrol panel from
n cassette holder.
o much force.

nel forward.
unted inside
n lead wires are
e control panel
e in a removed

DECK MECHANISMS


deck B
deck A
❹ amp chassis

❶ Remove tape-counter belt and temporarily hang it on protrusion on deck chassis.

❷ screw(s), + BVTT 3 x 8

❸ screws, + BVTT 3 x 6 (black)

❷ screw(s), + BVTT 3 x 8

❸ screws, + BVTT 3 x 6 (black)

❷ screw(s), + BVTT 3 x 8

SYSTEM-CONTROL BOARD

❶ *Unlock wire clampers.*

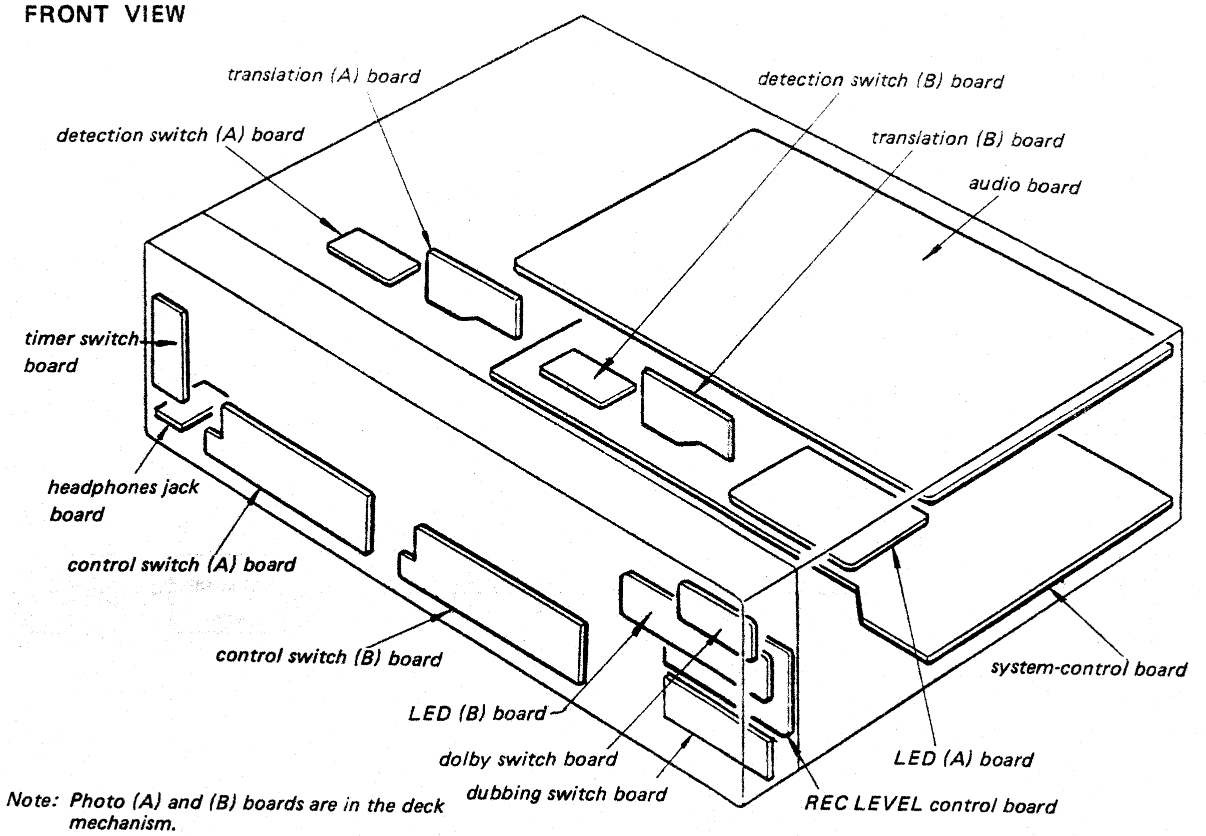
❷ *Unplug all connectors which connect to the system-control board, and all connectors at other boards/portions which connect lead wires directly soldered to and extracting from the system-control board.*

❸ *Remove three (3) screws, + PTTWH 3 x 6, which fasten the system-control board.*

❹ *Unsolder lead wires as required for performing complete board replacement, etc.*

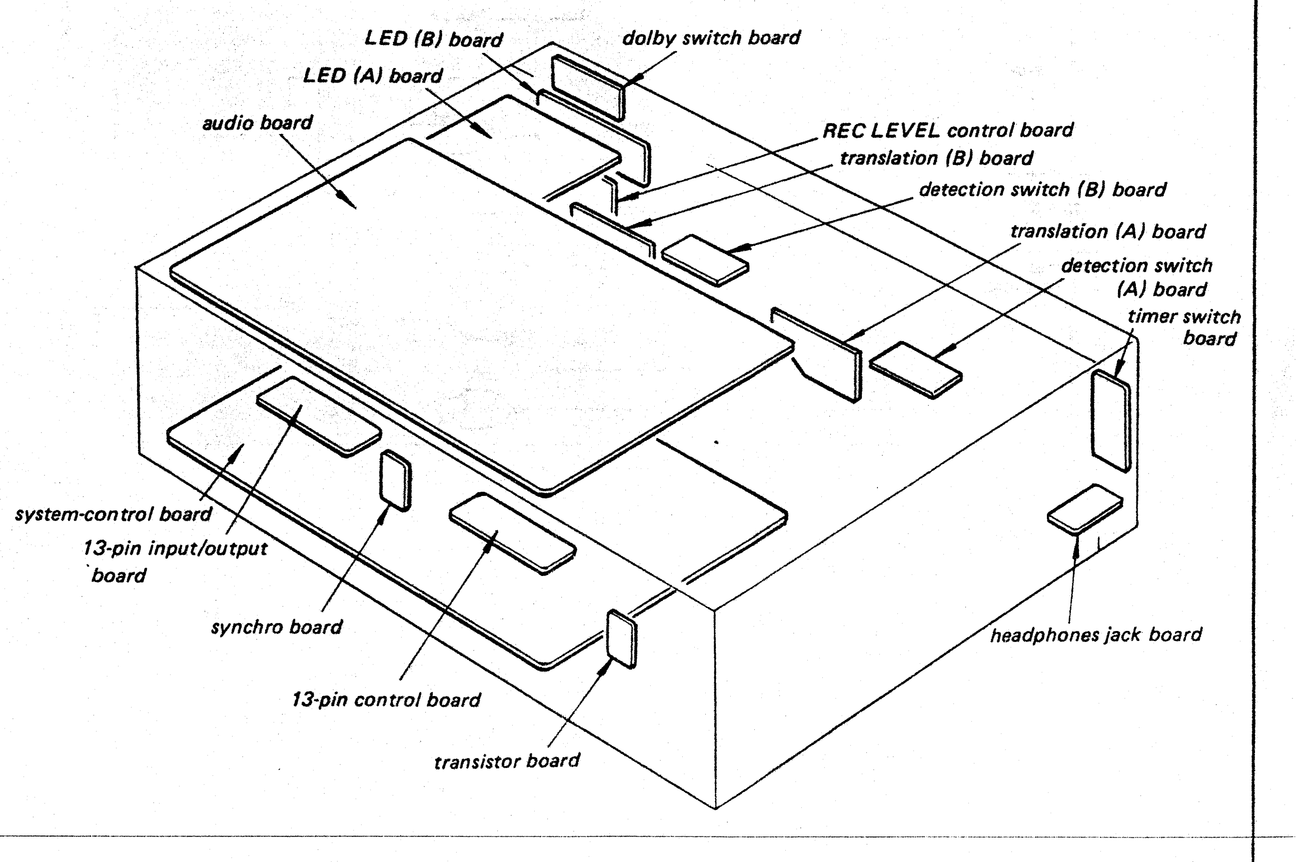
P.C. BOARD LOCATIONS

FRONT VIEW


translation (A) board
detection switch (B) board
detection switch (A) board
translation (B) board
audio board
timer switch board
headphones jack board
control switch (A) board
control switch (B) board
system-control board
LED (B) board
dolby switch board
LED (A) board
dubbing switch board
REC LEVEL control board

Note: Photo (A) and (B) boards are in the deck mechanism.

REAR VIEW


LED (B) board
dolby switch board
LED (A) board
audio board
REC LEVEL control board
translation (B) board
detection switch (B) board
translation (A) board
detection switch (A) board
timer switch board
system-control board
13-pin input/output board
synchro board
headphones jack board
13-pin control board
transistor board

SECTION 3
ADJUSTMENTS

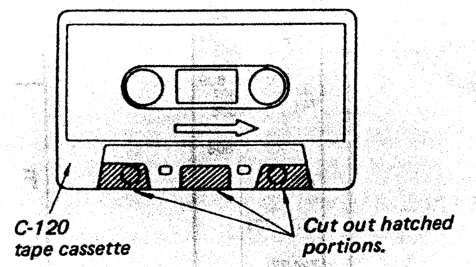
3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

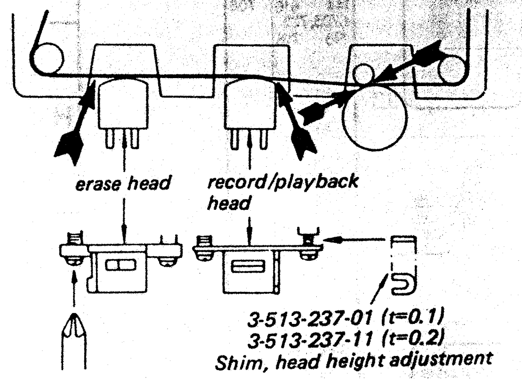
1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback/erase head rubber belts
   capstan
   pinch roller
2. Demagnetize the head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below, or mirror cassette.


C-120
tape cassette
Cut out hatched portions.

2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at the portions shown by the arrows.

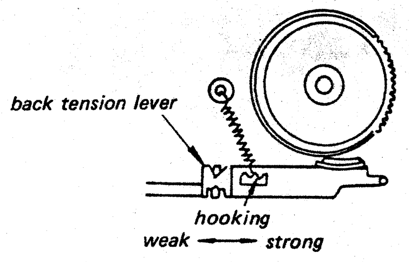

erase head
record/playback head
3-513-237-01 (t=0.1)
3-513-237-11 (t=0.2)
Shim, head height adjustment

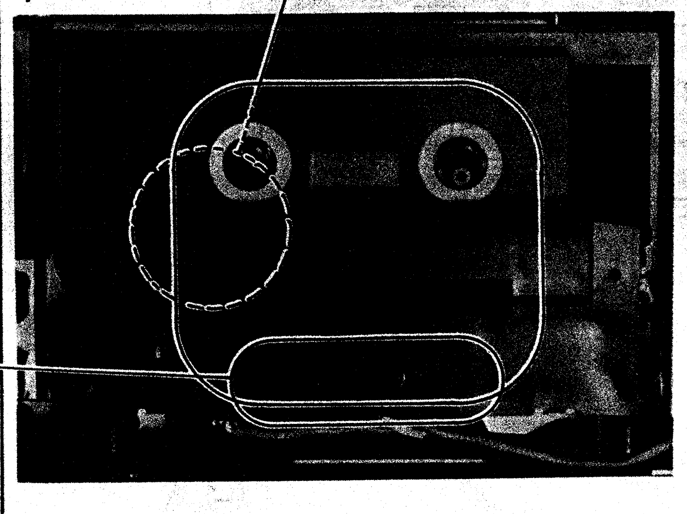
Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	28–60 g•cm (0.41–0.82 oz•inch)
Fast Forward and Rewind	CQ-201B	80–150 g•cm (1.2–2.1 oz•inch)
Brake	TOHNICHI Torque Gauge	10–100 g•cm (0.15–1.35 oz•inch)

BACK TENSION ADJUSTMENT
– Playback Mode –

Torque Meter CQ-102C, Torque 2.5–6 g•cm
(0.03–0.08 oz•inch)


back tension lever
hooking
weak ⟵ strong



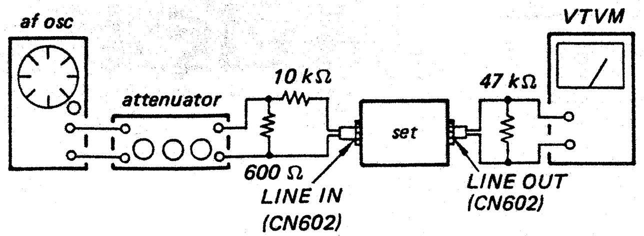
3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

The adjustment procedures are given for either full LBT-V11W/V33W system or the TC-V11W/V33W Tape Deck proper. Use the distributed test/adjustment jig for the Liberty Component System when performing the adjustments to the tape deck proper.

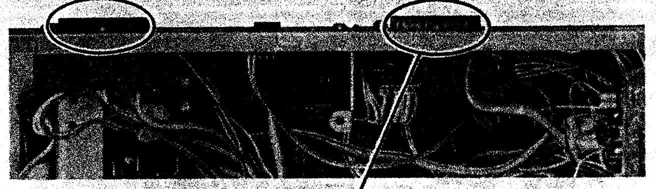
- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch: OFF
  TIMER switch: OFF
  SYNCHRO DUBBING Switch:NORMAL SPEED
  PLAY switch: OFF
  HEADPHONES switch: A
- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –


af osc
attenuator
10 kΩ
600 Ω
LINE IN
(CN602)
set
47 kΩ
LINE OUT
(CN602)
VTVM

CNJ601 (SYSTEM CONTROL 2)
From right: Pin 1 ⟶ Pin 13

AC Power –
- Pin 6: AC input (12.5V)
- Pin 7: GND (ground)
- Pin 8: AC input (12.5V)



CNJ602 (SYSTEM CONTROL 1)
From right: Pin 1 ⟶ Pin 13

Playback Output –
- Pin 5: L-CH
- Pin 6: GND (ground)
- Pin 7: R-CH

Record-signal Input –
- Pin 9: L-CH
- Pin 10: GND (ground)
- Pin 11: R-CH

Pin 12: GND (ground)

Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (-10 dB)

Standard Output Level

	LINE OUT
load impedance	47 kΩ
output level	0.44 V (-5 dB)

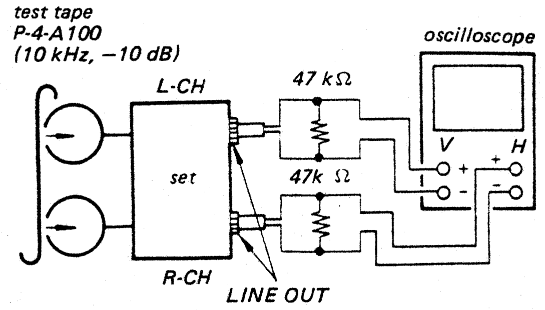
Do not use any kind of single pin from outside of CNJ601 and CNJ602. Their forming of contacts will easily be deformed or damaged.

Record/playback Head Azimuth Adjustment

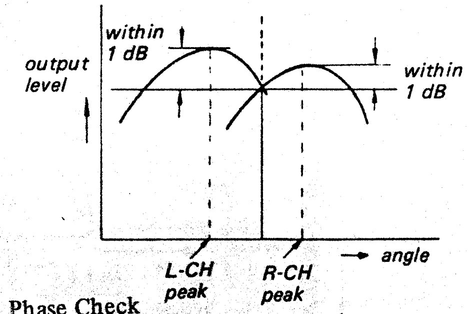
Note: Before performing this adjustment, remove front panel and function switch block referring to the Disassembly section.
Take care not to break the function-switch block panel.

Procedure:

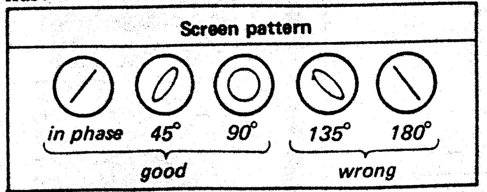
1. Mode: playback


test tape
P-4-A100
(10 kHz, –10 dB)
L-CH
R-CH
set
LINE OUT
47 kΩ
47k Ω
oscilloscope
V
H
+
-

Adjust the adjustment screw so that amplitude of output pattern become in maximum both in vertically and horizontally within the good range shown below. Output-level difference between channels should be within 1 dB.



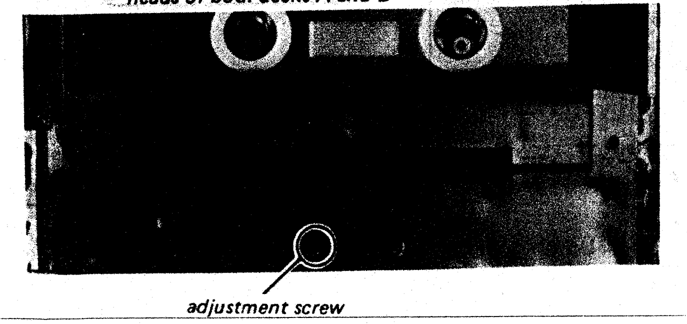
Phase Check


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

3. After the adjustment finishing with tightening direction, lock the adjustment screw with locking compound.
4. After the locking compound dried out, reassemble the function switch block.

Adjustment Location:

– heads of both decks A and B –


adjustment screw

Tape S
Proce
Mc
test
WS-
(3 k
Be
Wh
in
NO
Grc
bac
spe
DE
Adju
– Sy

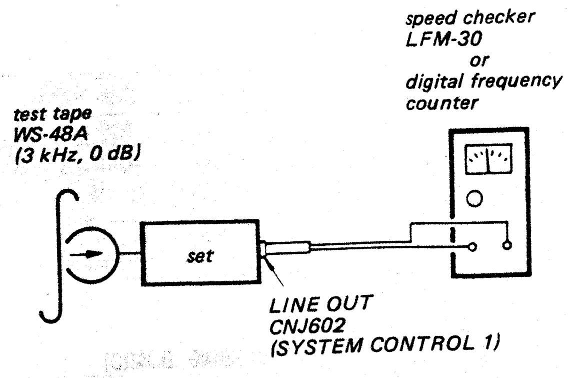
..ction

ing
ing
em-

Tape Speed Adjustment **DECK A** , **DECK B**

Procedure:

Mode: playback

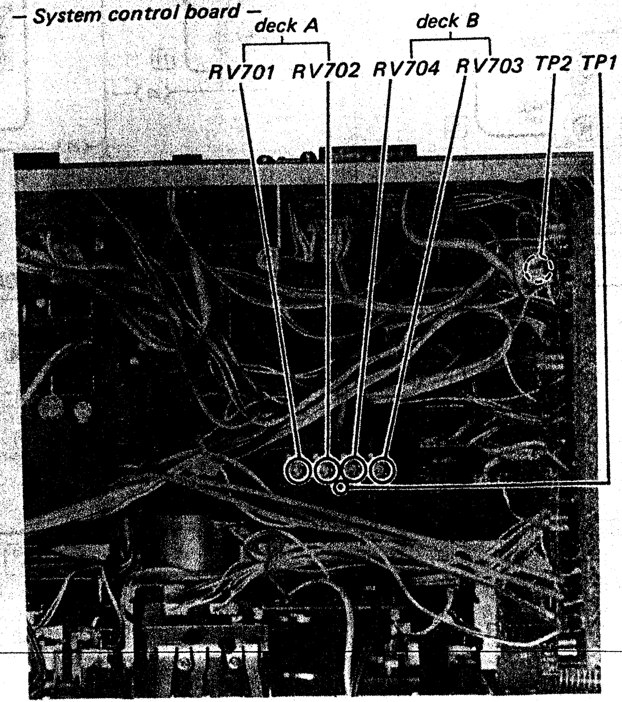

speed checker
LFM-30
or
digital frequency
counter
test tape
WS-48A
(3 kHz, 0 dB)
set
LINE OUT
CNJ602
(SYSTEM CONTROL 1)

Be sure to use the starting portion of the test tape. When TP1 is grounded, the circuit forcively becomes in the HIGH SPEED mode ignoring the HIGH and NORMAL SPEED DUBBING SWITCH.
Ground TP1 after making the deck mode in playback. Perform the adjustment deck by deck, not in speed by speed.

DECK	GROUNDING of TP1	ADJUST TO 6000 Hz	ADJUST TO 3000 Hz
A	Ground.	RV701	
	Open.		RV702
B	Ground.	RV704	
	Open.		RV703

Adjustment Location

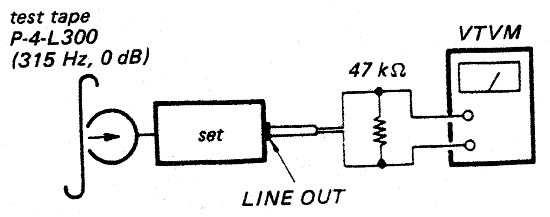
– System control board –


deck A
deck B
RV701
RV702
RV704
RV703
TP2
TP1

Playback Level Adjustment **DECK A** , **DECK B**

Procedure:

Mode: playback


test tape
P-4-L300
(315 Hz, 0 dB)
VTVM
47 kΩ
set
LINE OUT

Adjust the RV102, RV103 (L-CH) and RV202, RV203(R-CH) so that VTVM reads 0.44V(−5dB).

Specification:

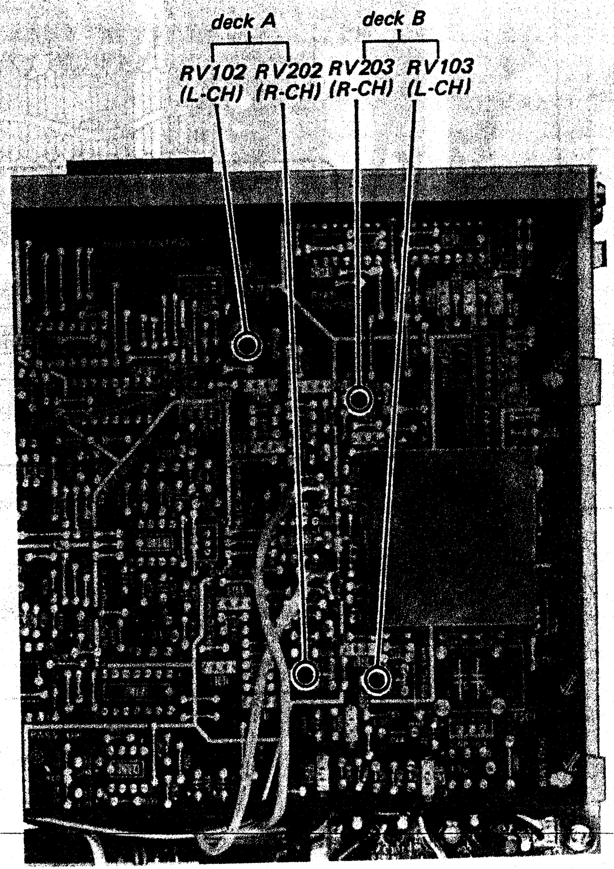
LINE OUT level: 0.41 to 0.46 V
(−5.5 to −4.5 dB)

Level difference between channels:
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

– audio board –


deck A
deck B
RV102
(L-CH)
RV202
(R-CH)
RV203
(R-CH)
RV103
(L-CH)

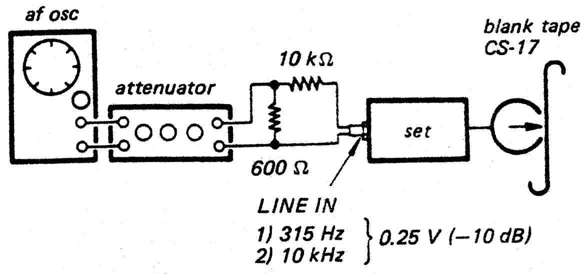
Record Bias Adjustment **DECK B**

Setting:

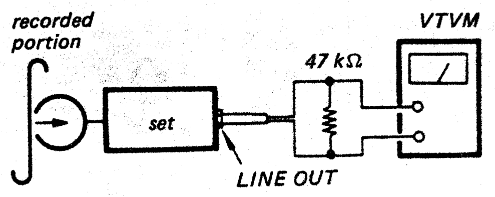
REC LEVEL control: standard record
(See page 12.)

Procedure:

1. Short out TP2 to aid monitoring (See page 13).
2. Mode: record


af osc
attenuator
10 kΩ
600 Ω
set
blank tape
CS-17
LINE IN
1) 315 Hz
2) 10 kHz
0.25 V (−10 dB)

3. Mode: Playback

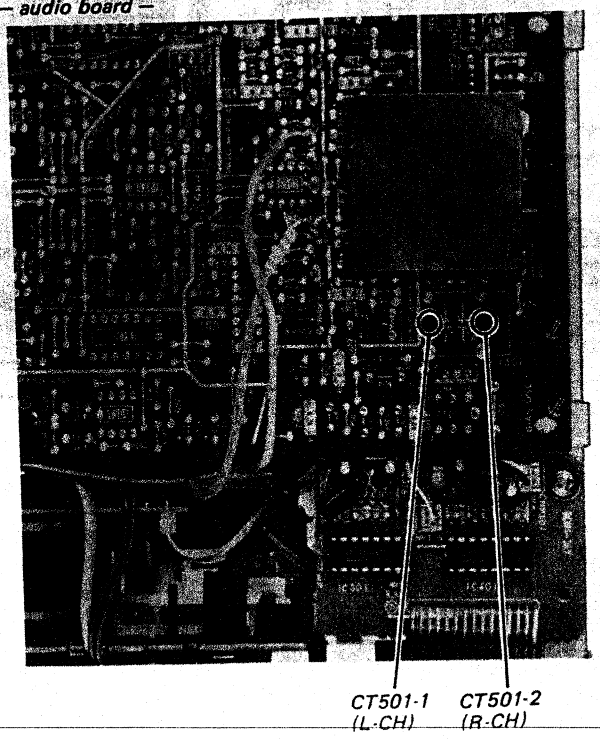

recorded
portion
VTVM
47 kΩ
set
LINE OUT

Confirm that the 10 kHz playback output is 0 dB relative to the 315 Hz output. If necessary, adjust CT501-1 (L-CH), CT501-2 (R-CH) and repeat the steps given above.

4. Remove shorting at TP2.

Adjustment Location:

– audio board –


CT501-1
(L-CH)
CT501-2
(R-CH)

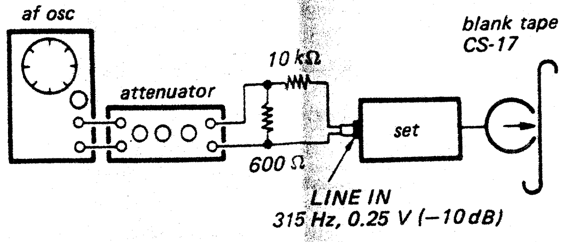
Record Level Adjustment **DECK B**

Setting:

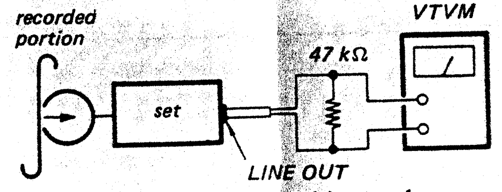
REC LEVEL control: standard record
(See page 12.)

Procedure:

1. Short out pins of TP2 to aid monitoring (See page 13).
2. Mode: record


af osc
attenuator
10 kΩ
600 Ω
set
blank tape
CS-17
LINE IN
315 Hz, 0.25 V (−10dB)

3. Mode: playback


recorded
portion
VTVM
47 kΩ
set
LINE OUT

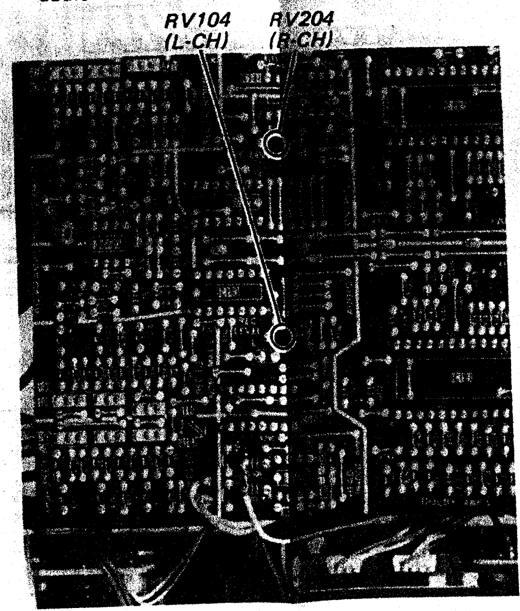
4. Playback the signal recorded in step 1.
Confirm that the signal level is within the specification below. If necessary, adjust RV104 (L-CH), RV204 (R-CH) and repeat the step 1-3.
5. Remove shorting at TP2.

Specification:

LINE OUT level: 0.41–0.46 V
−5dB ± 0.5dB

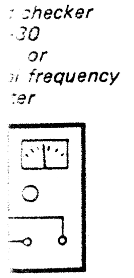
Adjustment Location:

– audio board –


RV104
(L-CH)
RV204
(R-CH)

Leve
Pro
1.
2.
3.
4.
5.
6.

A , **DECK B**

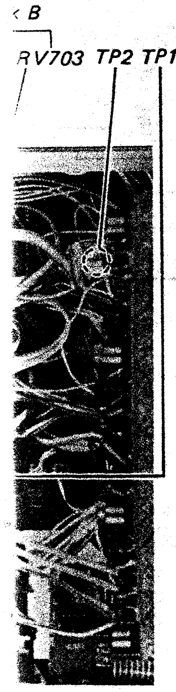

checker
-30
or
frequency
ter

L 1)

he test tape.
ely becomes
HIGH and

ode in play-
deck, not in

DJUST TO 3000 Hz
RV702
RV703

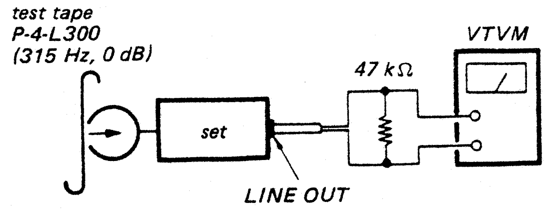

B
RV703 TP2 TP1

Playback Level Adjustment

DECK A , **DECK B**

Procedure:

Mode: playback


test tape
P-4-L300
(315 Hz, 0 dB)
47 kΩ
VTVM
set
LINE OUT

Adjust the RV102, RV103 (L-CH) and RV202, RV203(R-CH) so that VTVM reads 0.44V(−5dB).

Specification:

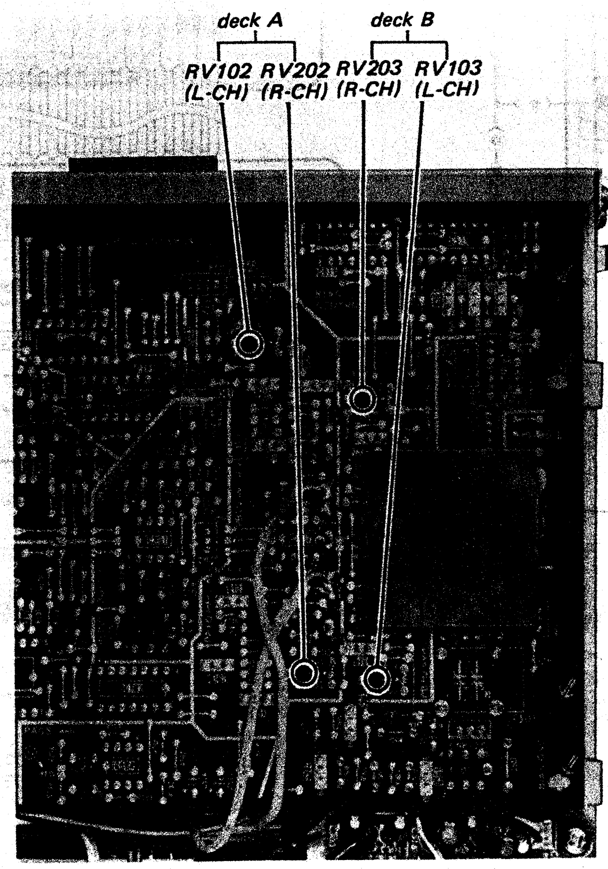
LINE OUT level: 0.41 to 0.46 V
(−5.5 to −4.5 dB)

Level difference between channels:
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

– audio board –


deck A
deck B
RV102 (L-CH)
RV202 (R-CH)
RV203 (R-CH)
RV103 (L-CH)

Record Bias Adjustment

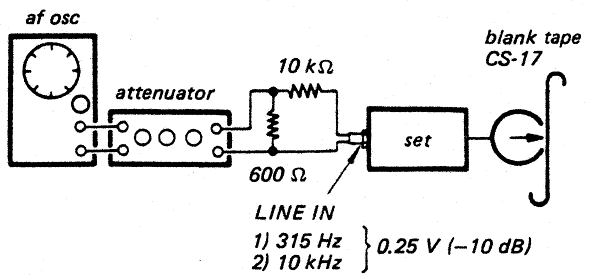
DECK B

Setting:

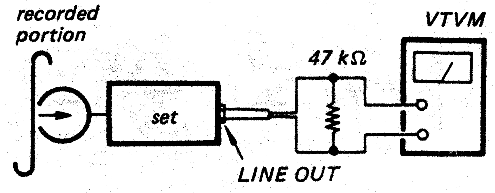
REC LEVEL control: standard record
(See page 12.)

Procedure:

1. Short out TP2 to aid monitoring (See page 13).
2. Mode: record


af osc
attenuator
10 kΩ
600 Ω
blank tape
CS-17
set
LINE IN
1) 315 Hz
2) 10 kHz
0.25 V (−10 dB)

3. Mode: Playback

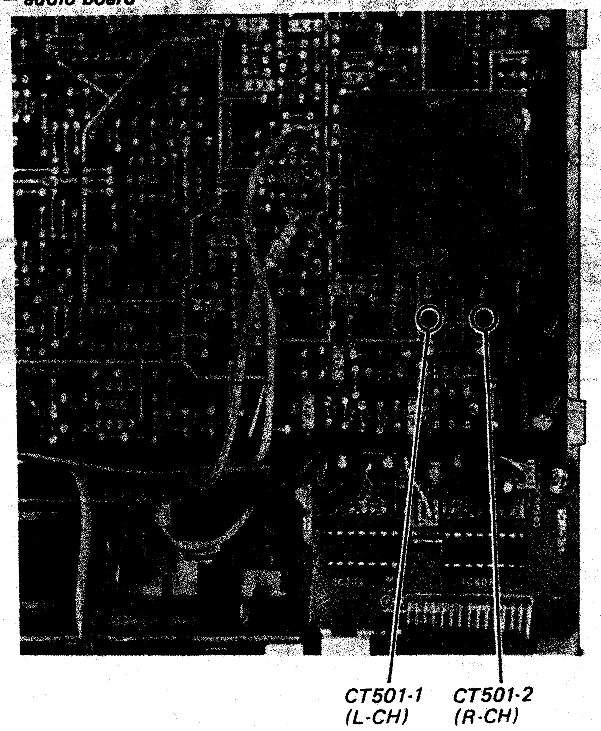

recorded portion
VTVM
47 kΩ
set
LINE OUT

Confirm that the 10 kHz playback output is 0 dB relative to the 315 Hz output. If necessary, adjust CT501-1 (L-CH), CT501-2 (R-CH) and repeat the steps given above.

4. Remove shorting at TP2.

Adjustment Location:

– audio board –


CT501-1 (L-CH)
CT501-2 (R-CH)

Record Level Adjustment

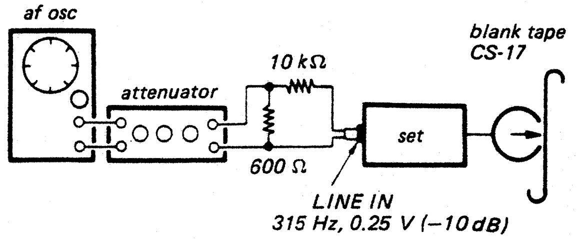
DECK B

Setting:

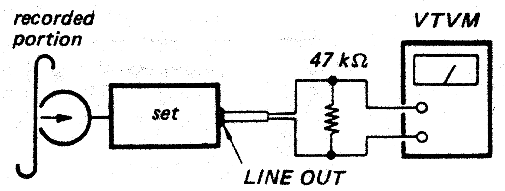
REC LEVEL control: standard record
(See page 12.)

Procedure:

1. Short out pins of TP2 to aid monitoring (See page 13).
2. Mode: record


af osc
attenuator
10 kΩ
600 Ω
blank tape
CS-17
set
LINE IN
315 Hz, 0.25 V (−10 dB)

3. Mode: playback


recorded portion
VTVM
47 kΩ
set
LINE OUT

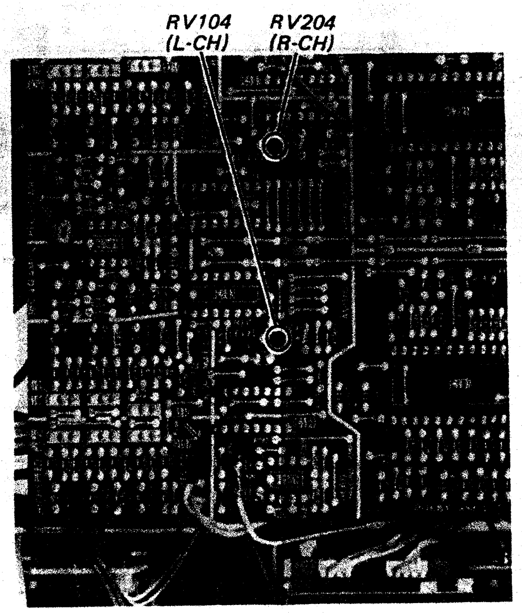
4. Playback the signal recorded in step 1.
   Confirm that the signal level is within the specification below. If necessary, adjust RV104 (L-CH), RV204 (R-CH) and repeat the step 1-3.
5. Remove shorting at TP2.

Specification:

LINE OUT level: 0.41–0.46 V
−5dB ± 0.5dB

Adjustment Location:

– audio board –

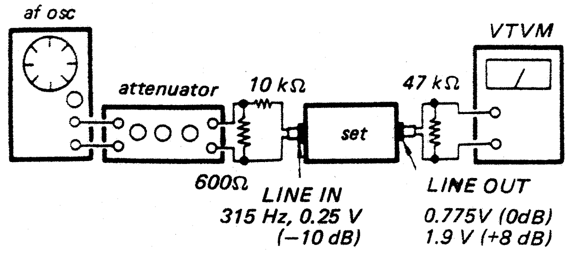

RV104 (L-CH)
RV204 (R-CH)

Level Meter Calibration

DECK B

Procedure:

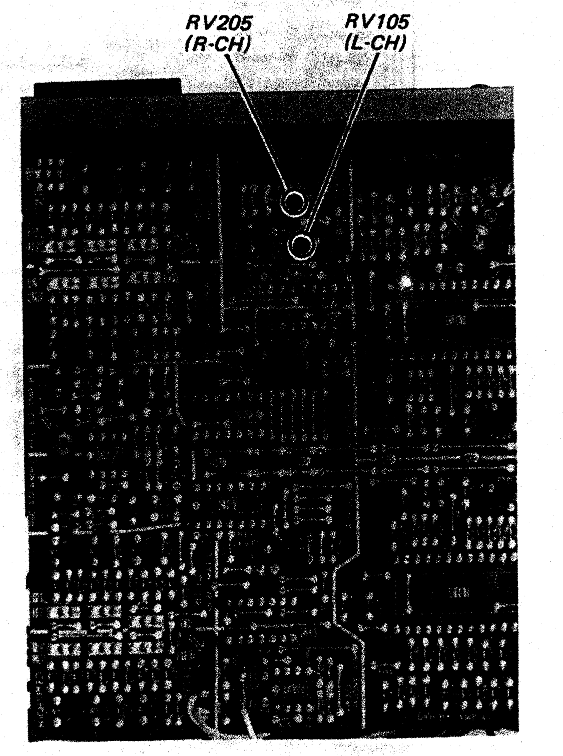
1. Short out pins of TP2 to aid monitoring (See page 13).
2. Mode: record


af osc
VTVM
attenuator
10 kΩ
47 kΩ
set
600Ω
LINE IN
315 Hz, 0.25 V (−10 dB)
LINE OUT
0.775V (0dB)
1.9 V (+8 dB)

3. Set the REC LEVEL control so that the LINE OUT level is 0.775V (0dB).
4. Adjust RV105 (L-CH), RV205 (R-CH) so that the 0VU (red bar) segment of the level meter goes on.
   Note: The adjustment should be made while decreasomg the level, not increasing level.
5. Set the REC LEVEL control so that the LINE OUT level is 1.9 V (+8 dB). Make sure that all the lights in the segments go on.
6. Remove shorting at TP2.

Adjustment Location:

– audio board –

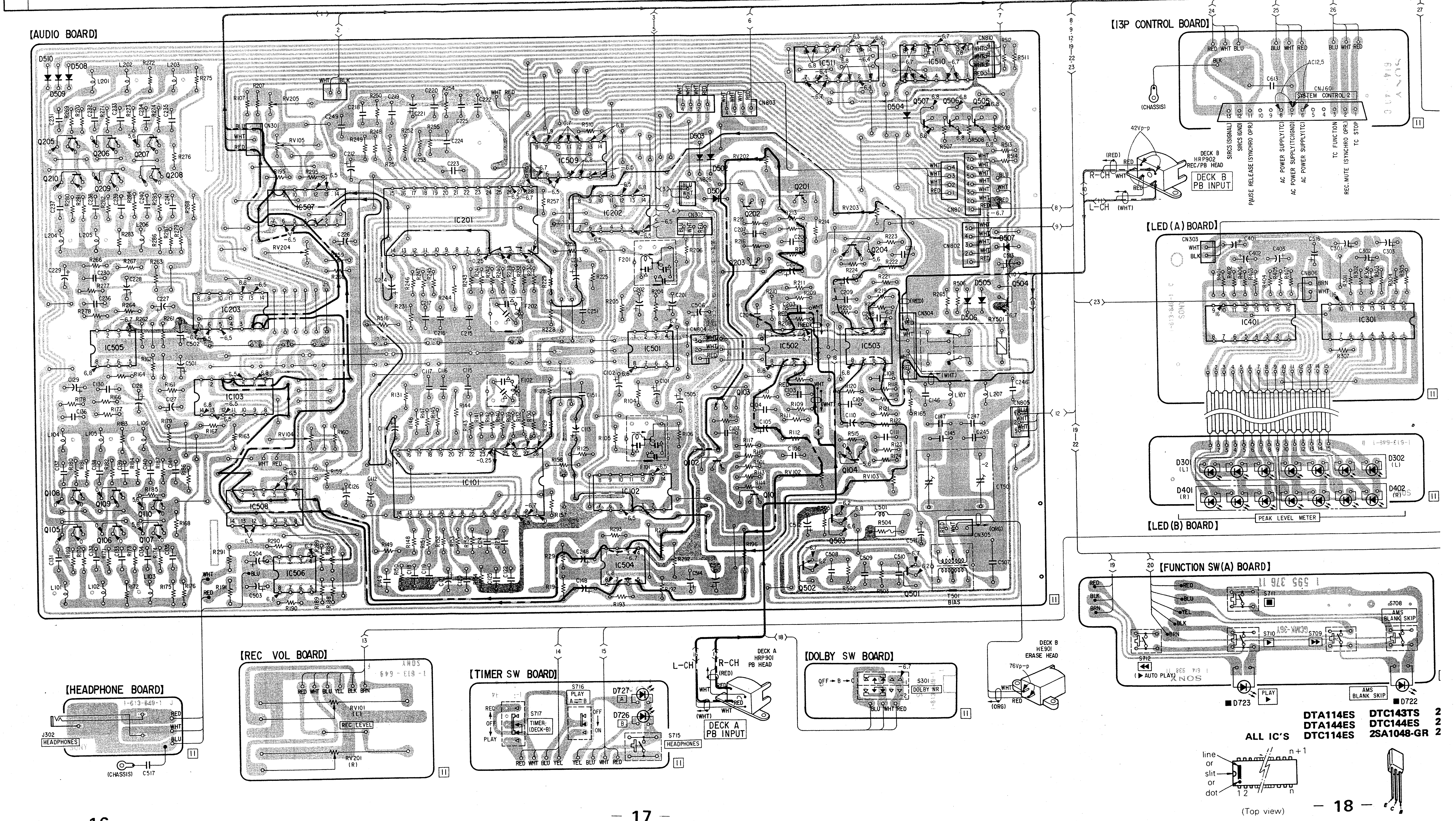

RV205 (R-CH)
RV105 (L-CH)

4-1. MOUNTING DIAGRAM
– Conductor Side –

SECTION 4
DIAGRAMS

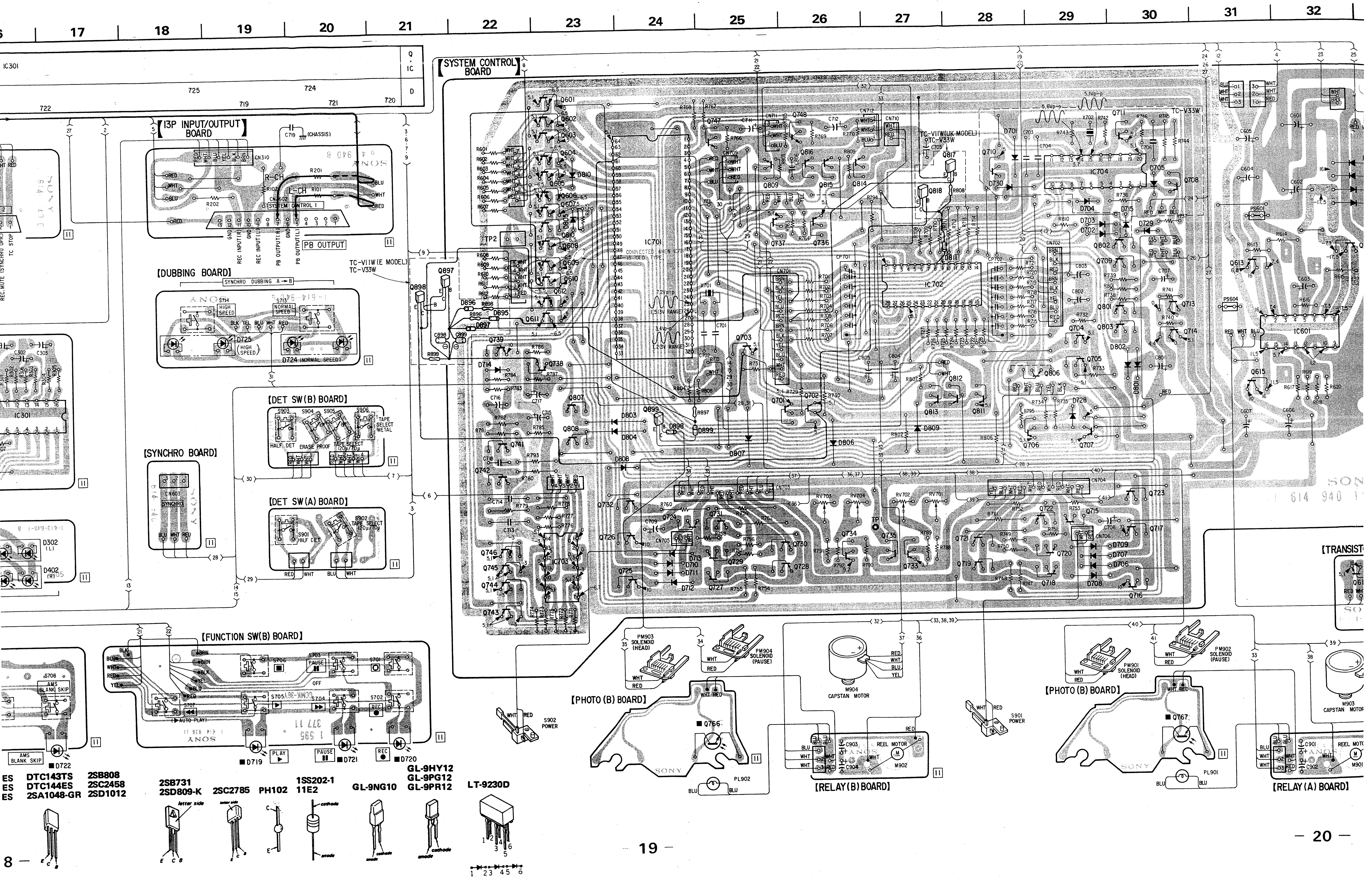
- See Page 24 For Note, and Pages 31 To 34 For System — Control Section Schematic Diagram.

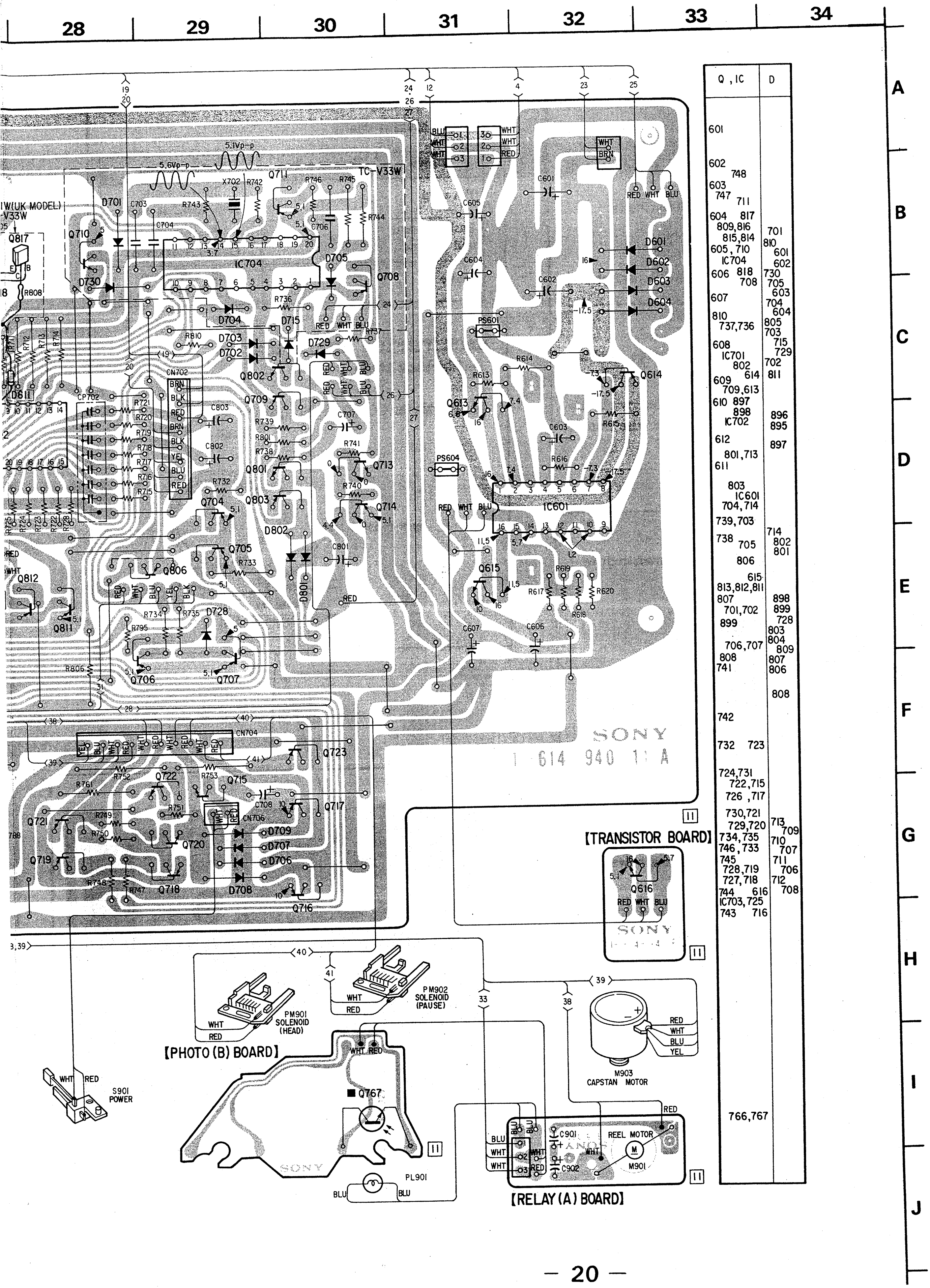
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Q · IC		205 210 108 105 IC505 206 209 109 106	207 208 110 107	IC203 IC103 IC508 IC507 IC506		IC201 IC101	IC509	IC202 IC102 IC501 IC504	103 102 202 203 101	IC502 201 502 503 IC511	204 104 IC503 501 IC510 507	506 508 504			IC401	IC301	
D		510,509,508						727 726	503,502 501		504	506,505 507			301 401 723	302 402	722


[AUDIO BOARD]
[13P CONTROL BOARD]
SYSTEM CONTROL 2
CNJ601
(CHASSIS)
SIRCS (SIGNAL)
SIRCS (GND)
PAUSE RELEASE (SYNCHRO OPR.)
AC POWER SUPPLY(TC)
AC POWER SUPPLY(TC)(GND)
AC POWER SUPPLY(TC)
TC FUNCTION
REC.MUTE (SYNCHRO OPR.)
TC STOP
DECK B HRP902 REC/PB HEAD
DECK B PB INPUT
R-CH
L-CH
[LED (A) BOARD]
[LED (B) BOARD]
PEAK LEVEL METER
D301 (L)
D401 (R)
D302 (L)
D402 (R)
[FUNCTION SW(A) BOARD]
S711
S708 AMS BLANK SKIP
S712 ◀◀ (▶ AUTO PLAY)
S710 ▶
S709 ▶▶
■D723 PLAY ▶
AMS BLANK SKIP ■D722
[HEADPHONE BOARD]
J302 HEADPHONES
(CHASSIS) C517
[REC VOL BOARD]
RV101 (L) REC LEVEL
RV201 (R)
[TIMER SW BOARD]
S716 PLAY A→B
S717 TIMER-(DECK-B)
REC OFF PLAY
D727 A
D726 B
S715 HEADPHONES
DECK A HRP901 PB HEAD
DECK A PB INPUT
[DOLBY SW BOARD]
OFF B C
S301 DOLBY NR
DECK B HE901 ERASE HEAD
76Vp-p
42Vp-p
T501 BIAS
IC101
IC102
IC103
IC201
IC202
IC203
IC301
IC401
IC501
IC502
IC503
IC504
IC505
IC506
IC507
IC508
IC509
IC510
IC511
line or slit or dot
n+1
1 2
n
(Top view)
E C B

DTA114ES **DTC143TS** **2**
DTA144ES **DTC144ES** **2**
DTC114ES **2SA1048-GR** **2**

ALL IC'S

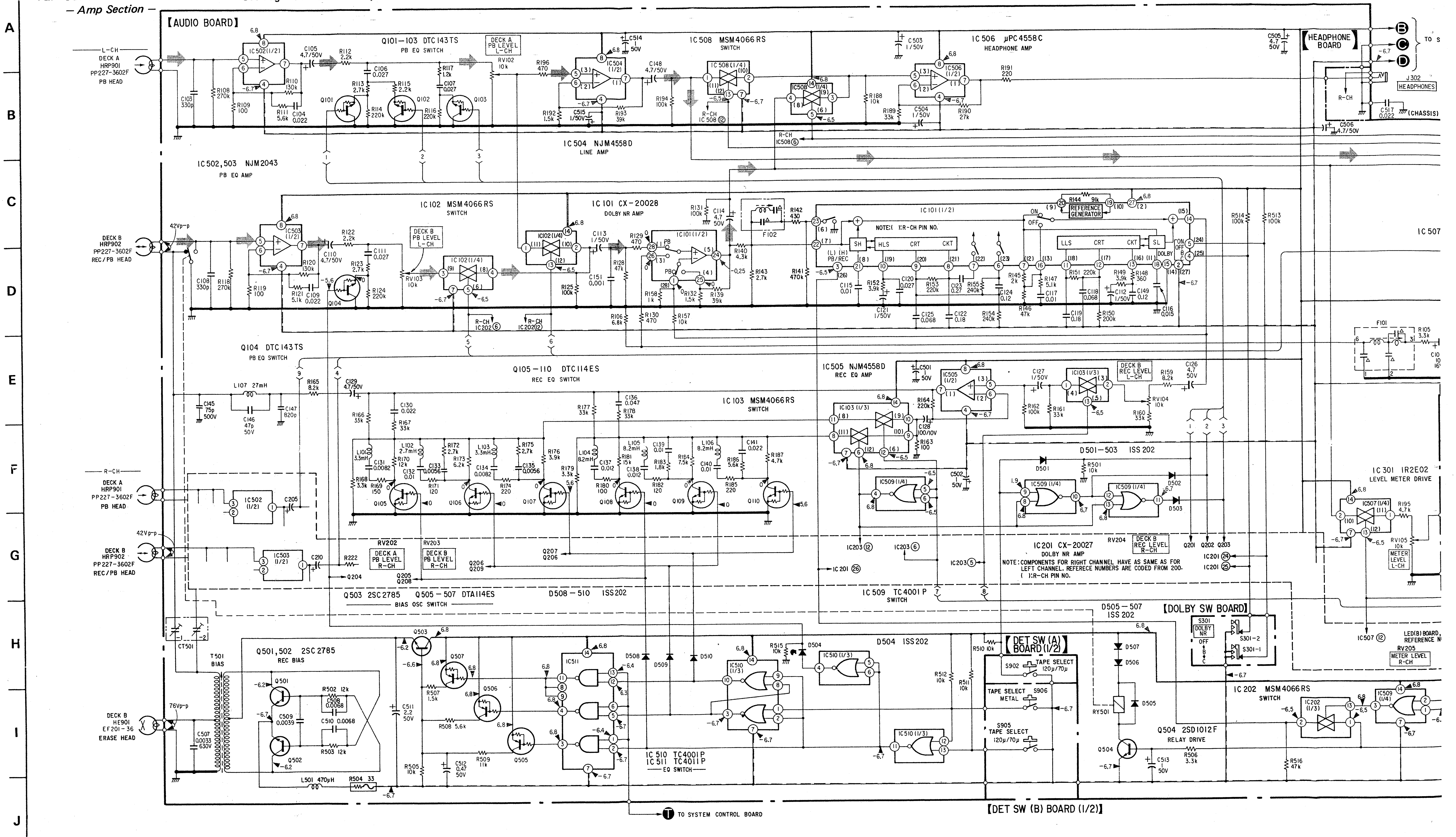

17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
IC301
[SYSTEM CONTROL] BOARD
[3P INPUT/OUTPUT] BOARD
SYSTEM CONTROL I
PB OUTPUT
REC INPUT(R)
REC INPUT(L)
PB OUTPUT(R)
PB OUTPUT(L)
GND
[DUBBING BOARD]
SYNCHRO DUBBING A→B
S714 HIGH SPEED
S713 NORMAL SPEED
D725 (HIGH SPEED)
D724 (NORMAL SPEED)
[SYNCHRO BOARD]
CN603
SYNCHRO
[DET SW(B) BOARD]
S903
S904
S905
S906
HALF DET
ERASE PROOF
TAPE SELECT (20μ/70μ)
TAPE SELECT METAL
[DET SW(A) BOARD]
S901 HALF DET
S902 TAPE SELECT (20μ/70μ)
TC-V11W(E MODEL)
TC-V33W
TC-V11W(UK MODEL)
TC-V33W
TC-V33W
IC701
IC702
IC704
IC601
TP2
TP1
CONNECTED WHEN IC73 IS OLD TYPE
7.2Vp-p (1.5.3V RANGE)
3.4Vp-p (1.2.5V RANGE)
5.6Vp-p
5.1Vp-p
X701
X702
PS601
PS604
[FUNCTION SW(B) BOARD]
S708 AMS BLANK SKIP
S707 (AUTO PLAY)
S706
S703 PAUSE
S701
S705
S704
S702 REC
OFF
D722
AMS BLANK SKIP
D719 PLAY
D721 PAUSE
D720 REC
PM903 SOLENOID (HEAD)
PM904 SOLENOID (PAUSE)
M904 CAPSTAN MOTOR
S902 POWER
[PHOTO (B) BOARD]
Q766
PL902
[RELAY(B) BOARD]
REEL MOTOR
M902
PM901 SOLENOID (HEAD)
PM902 SOLENOID (PAUSE)
M903 CAPSTAN MOTOR
S901 POWER
[PHOTO (B) BOARD]
Q767
PL901
[RELAY (A) BOARD]
REEL MOTOR
M901
[TRANSISTOR
SONY
1-614-940-11
ES
ES
ES
DTC143TS
DTC144ES
2SA1048-GR
2SB808
2SC2458
2SD1012
E C B
2SB731
2SD809-K
letter side
E C B
2SC2785
letter side
E C B
PH102
C
E
1SS202-1
11E2
cathode
anode
GL-9NG10
cathode
anode
GL-9HY12
GL-9PG12
GL-9PR12
cathode
anode
LT-9230D
1 2 3 4 5 6


28
29
30
31
32
33
34
A
B
C
D
E
F
G
H
I
J
5.6Vp-p
5.1Vp-p
TC-V33W
W(UK MODEL)
V33W
Q817
R808
D701
C703
C704
Q710
D730
X702
R742
R743
Q711
R746
R745
R744
C706
IC704
D705
Q708
R736
D704
D715
D729
R737
R810
D703
D702
Q802
CN702
CP702
R721
R720
R719
R718
R717
R716
R715
C803
C802
Q709
R739
R801
R738
R741
Q713
R740
Q714
C707
R732
Q704
Q803
D802
C801
D801
Q705
R733
Q806
Q812
Q811
R734
R735
D728
R795
R806
Q706
Q707
D811
CN704
Q723
R752
R753
Q722
Q715
R761
C708
Q717
R749
R751
CN706
Q721
R750
Q720
D709
D707
D706
Q719
R748
R747
Q718
D708
Q716
C601
C605
C604
C602
D601
D602
D603
D604
PS601
R614
R613
Q613
Q614
R615
C603
PS604
R616
IC601
Q615
R619
R617
R620
R618
C607
C606
SONY
1-614-940-11 A
[TRANSISTOR BOARD]
Q616
PM901 SOLENOID (HEAD)
PM902 SOLENOID (PAUSE)
[PHOTO (B) BOARD]
Q767
S901 POWER
M903 CAPSTAN MOTOR
REEL MOTOR
M901
C901
C902
PL901
[RELAY (A) BOARD]
RED
WHT
BLU
YEL
BRN
BLK

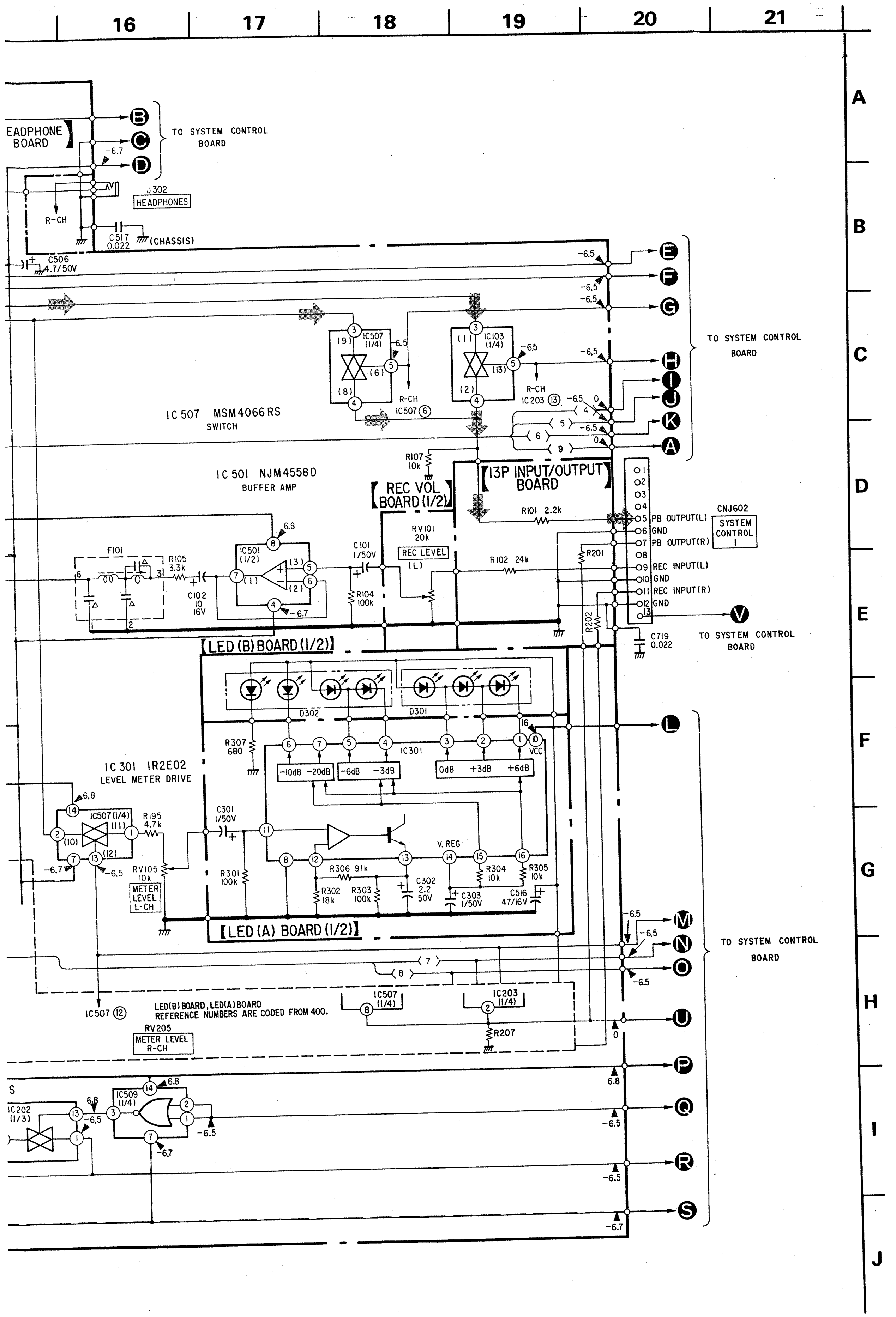
Q ,IC	D
601	
602 748 603 747 711 604 817 809,816 815,814 605 ,710 IC704 606 818	701 810 601 602 730
708 607 810 737,736 608 IC701 802 614 609 709,613	705 603 704 604 805 703 715 729 702 811
610 897 898 IC702 612 801,713 611 803 IC601 704,714 739,703	896 895 897
738 705 806 615 813,812,811 807 701,702 899 706,707	714 802 801 898 899 728 803 804 809
808 741 742 732 723 724,731	807 806 808
722,715 726 ,717 730,721 729,720 734,735 746 ,733 745 728,719 727,718 744 616 IC703,725	713 709 710 707 711 706 712 708
743 716	
766,767	

4-2. SCHEMATIC DIAGRAM (1) • See Pages 31 To 34 For System — Control Section.

— Amp Section —


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
【AUDIO BOARD】
L-CH DECK A HRP901 PP227-3602F PB HEAD
DECK B HRP902 PP227-3602F REC/PB HEAD
R-CH DECK A HRP901 PP227-3602F PB HEAD
DECK B HRP902 PP227-3602F REC/PB HEAD
DECK B HE901 EF201-36 ERASE HEAD
42Vp-p
76Vp-p
IC502,503 NJM2043 PB EQ AMP
Q101-103 DTC143TS PB EQ SWITCH
DECK A PB LEVEL L-CH RV102 10k
DECK B PB LEVEL L-CH RV103 10k
IC504 NJM4558D LINE AMP
IC508 MSM4066RS SWITCH
IC506 μPC4558C HEADPHONE AMP
【HEADPHONE BOARD】
J302 HEADPHONES
(CHASSIS)
TO S
IC102 MSM4066RS SWITCH
IC101 CX-20028 DOLBY NR AMP
IC101 (1/2)
NOTE: ( ):R-CH PIN NO.
REFERENCE GENERATOR
SH HLS CRT CKT
LLS CRT CKT SL
DOLBY ON OFF
PB/REC
F102
F101
IC507
Q104 DTC143TS PB EQ SWITCH
Q105-110 DTC114ES REC EQ SWITCH
IC505 NJM4558D REC EQ AMP
IC103 MSM4066RS SWITCH
DECK B REC LEVEL L-CH RV104 10k
D501-503 ISS202
IC509 (1/4)
IC301 IR2E02 LEVEL METER DRIVE
IC507 (1/4)
RV105 10k METER LEVEL L-CH
RV202 DECK A PB LEVEL R-CH
RV203 DECK B PB LEVEL R-CH
RV204 DECK B REC LEVEL R-CH
IC201 CX-20027 DOLBY NR AMP
IC509 TC4001P SWITCH
Q503 2SC2785 Q505-507 DTA114ES BIAS OSC SWITCH
D508-510 ISS202
CT501
T501 BIAS
Q501,502 2SC2785 REC BIAS
IC511
IC510 (1/3)
IC510 TC4001P IC511 TC4011P EQ SWITCH
D504 ISS202
【DET SW (A) BOARD (1/2)】
S902 TAPE SELECT 120μ/70μ
TAPE SELECT METAL S906
S905 TAPE SELECT 120μ/70μ
【DET SW (B) BOARD (1/2)】
D505-507 ISS202
【DOLBY SW BOARD】
S301 DOLBY NR OFF B C S301-2 S301-1
RY501
Q504 2SD1012F RELAY DRIVE
IC202 MSM4066RS SWITCH
LED(B) BOARD, REFERENCE
RV205 METER LEVEL R-CH
T TO SYSTEM CONTROL BOARD
Q201 Q202 Q203
IC201 ㉔ IC201 ㉕
IC203 ⑫ IC203 ⑥ IC203 ⑤
IC 201 ㉖
Q204 Q205 Q208 Q206 Q209 Q207

NOTE: COMPONENTS FOR RIGHT CHANNEL HAVE AS SAME AS FOR LEFT CHANNEL. REFERECE NUMBERS ARE CODED FROM 200-
( ):R-CH PIN NO.


16
17
18
19
20
21
A
B
C
D
E
F
G
H
I
J
EADPHONE BOARD
TO SYSTEM CONTROL BOARD
J302
HEADPHONES
R-CH
C517 0.022
(CHASSIS)
C506 4.7/50V
IC507 (1/4)
IC103 (1/4)
R-CH IC507 ⑥
R-CH IC203 ⑬
IC 507 MSM4066RS
SWITCH
IC 501 NJM4558D
BUFFER AMP
R107 10k
REC VOL BOARD (1/2)
13P INPUT/OUTPUT BOARD
RV101 20k
REC LEVEL (L)
R101 2.2k
R102 24k
R201
R202
CNJ602
SYSTEM CONTROL
PB OUTPUT(L)
GND
PB OUTPUT(R)
REC INPUT(L)
GND
REC INPUT(R)
GND
C719 0.022
TO SYSTEM CONTROL BOARD
F101
R105 3.3k
C102 10 16V
IC501 (1/2)
C101 1/50V
R104 100k
LED (B) BOARD (1/2)
D302
D301
R307 680
IC301
-10dB -20dB
-6dB -3dB
0dB +3dB +6dB
VCC
IC 301 IR2E02
LEVEL METER DRIVE
IC507 (1/4)
R195 4.7k
RV105 10k
METER LEVEL L-CH
C301 1/50V
R301 100k
V. REG
R306 91k
R302 18k
R303 100k
C302 2.2 50V
C303 1/50V
R304 10k
R305 10k
C516 47/16V
LED (A) BOARD (1/2)
TO SYSTEM CONTROL BOARD
IC507 ⑫
LED(B) BOARD, LED(A) BOARD REFERENCE NUMBERS ARE CODED FROM 400.
RV205
METER LEVEL R-CH
IC507 (1/4)
IC203 (1/4)
R207
IC202 (1/3)
IC509 (1/4)
B
C
D
E
F
G
H
I
J
K
A
V
L
M
N
O
U
P
Q
R
S

Note For Schematic Diagram:

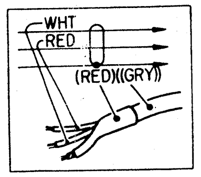
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▨➡ : signal path.
- Components for right channel have same values as for left channel. Reference numbers are coded from
- △ : internal component.
- ⊟ : fusible resistor.
- Switch

Ref. No.	Switch	Position
S301	DOLBY NR	OFF
S902	tape select	120μ
S905	METAL TAPE	OFF
S906	TAPE SELECT	120μ

- ▬▬ : B+ bus.
- ▬ ▬ : B− bus.
- ☐ : adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Readings are taken under no-signal conditions (stop mode) with a VOM (50 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.

Note For Mounting Diagram:

- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)((GRY))

- ○── : parts extracted from the component side.
- ●── : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ⬚← : indicates side identified with part number.
- ▬➡▬ : signal path
- ▬▬➡ : L-CH signal path
- ▬▬➡ : R-CH signal path
- ░ : B + pattern
- ▓ : B − pattern

PARTIAL SCHEMATIC DIAGRAMS (SYSTEM-CONTROL CIRCUIT)

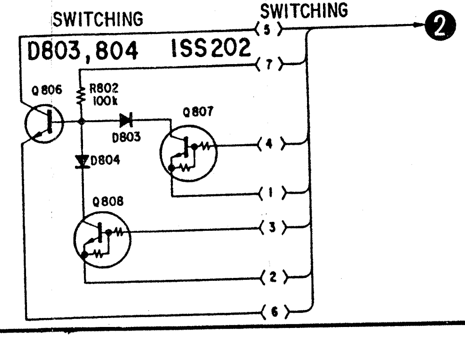
NOTE ON THE SYSTEM-CONTROL CIRCUIT:

The TC-V11W and TC-V33W units have some misoperation-correcting addit below depending upon the old-type CPU (MB88421-164M) and new-type CPU Some of these additional circuits are mounted on the foil side and others system-control circuit board. So, carefully evaluate each unit when performi ing its serial number on the model-number label.

OLD CPU
COUNTERMEASURE FOR AMS OPERATION

AMS switching circuit is added for some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers unknown.

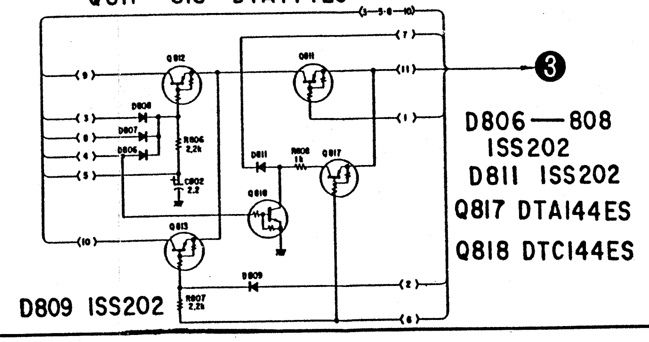
Q806 2SC2458 Q807,808 DTC144ES


SWITCHING
SWITCHING
D803,804 ISS202
Q806
R802 100k
D803
D804
Q807
Q808
5
7
4
1
3
2
6
2

OLD CPU
COUNTERMEASURE FOR SUMULTANEOUS PRESSING OF THE RECORD AND PLAY BUTTONS.

TC-V11W:
  UK Model: Serials up to 600500.
TC-V33W:
  AEP Model: Serials up to 500100.
  E Model: Serials up to 300600.

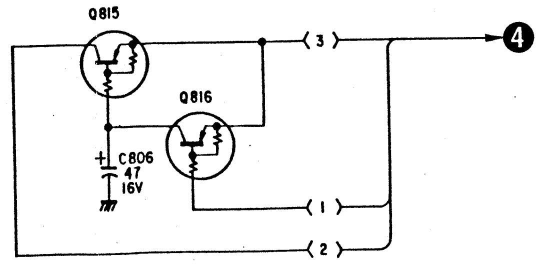
Q811—813 DTA144ES


Q812
Q811
D808
D807
D806
R806 2.2k
C802 2.2
D811
R808 1k
Q817
Q818
Q813
D809
R807 2.2k
3
D806—808 ISS202
D811 ISS202
Q817 DTA144ES
Q818 DTC144ES
D809 ISS202

OLD CPU
COUNTERMEASURE FOR TIMER OPERATION

Timer switching circuit is added for some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers unknown.

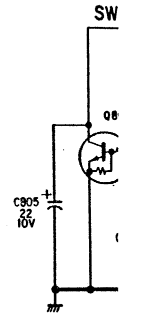
Q815,816 DTA114ES
TIMER


Q815
Q816
C806 47 16V
3
1
2
4

OLD CPU
COUNTERMEASU

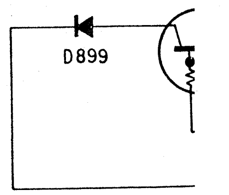
Switching circ
TC-V11W and
bers unknown.

Q809,8
SW



OLD CPU
COUNTERMEASU
PAUSE ON/OFF

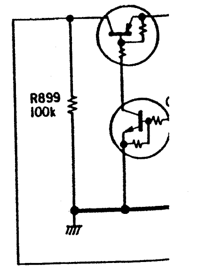
Some later un
using old-type



NEW CPU
COUNTERMEAS
OPERATION

TC-V11W:
  E Model
TC-V33W:
  AEP Mo
  E Model

Q898 DTA144


Q898
R899 100k

PARTIAL SCHEMATIC DIAGRAMS (SYSTEM-CONTROL CIRCUIT)

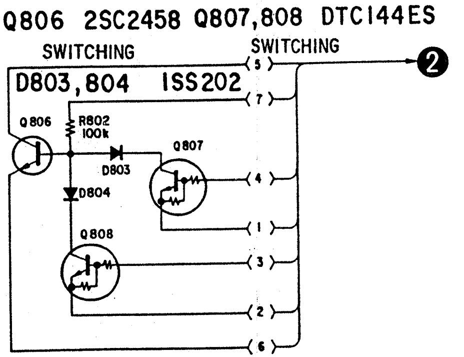
NOTE ON THE SYSTEM-CONTROL CIRCUIT:

The TC-V11W and TC-V33W units have some misoperation-correcting additional partial circuits as shown below depending upon the old-type CPU (MB88421-164M) and new-type CPU (MB88421-178M).
Some of these additional circuits are mounted on the foil side and others on the component-side of the system-control circuit board. So, carefully evaluate each unit when performing any service to one by checking its serial number on the model-number label.

OLD CPU

COUNTERMEASURE FOR AMS OPERATION

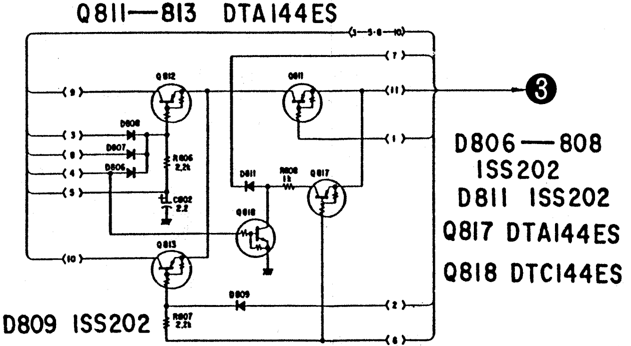
AMS switching circuit is added for some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers unknown.


Q806 2SC2458 Q807,808 DTC144ES
SWITCHING
SWITCHING
D803,804 1SS202
Q806
R802 100k
D803
Q807
D804
Q808
(5)
(7)
(4)
(1)
(3)
(2)
(6)
2

OLD CPU

COUNTERMEASURE FOR SUMULTANEOUS PRESSING OF THE RECORD AND PLAY BUTTONS.

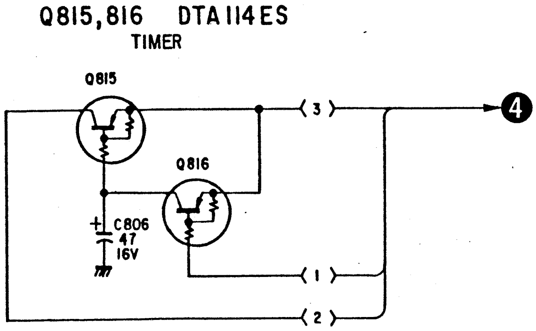
TC-V11W:
UK Model: Serials up to 600500.
TC-V33W:
AEP Model: Serials up to 500100.
E Model: Serials up to 300600.


Q811—813 DTA144ES
Q812
Q811
D808
D807
D806
R806 2.2k
C802 2.2
D811
R808 1k
Q817
Q818
Q813
D809
R807 2.2k
D806—808 1SS202
D811 1SS202
Q817 DTA144ES
Q818 DTC144ES
D809 1SS202
(7)
(11)
(1)
(9)
(3)
(8)
(4)
(5)
(10)
(2)
(6)
3

OLD CPU

COUNTERMEASURE FOR TIMER OPERATION

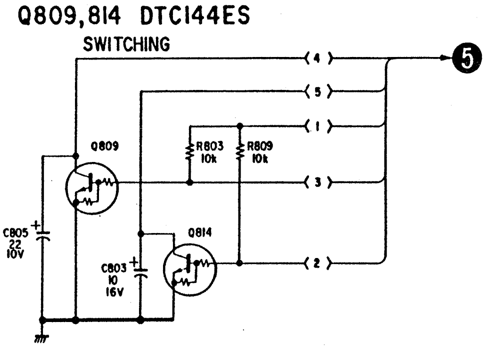
Timer switching circuit is added for some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers unknown.


Q815,816 DTA114ES
TIMER
Q815
Q816
C806 47 16V
(3)
(1)
(2)
4

OLD CPU

COUNTERMEASURE FOR STOP-MODE OPERATION

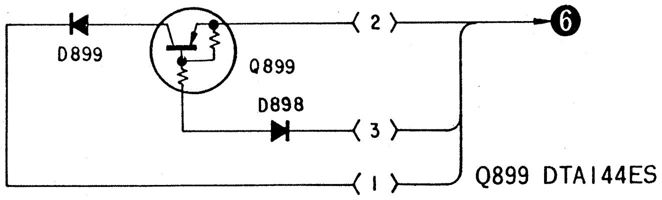
Switching circuit is added for some units of both TC-V11W and TC-V33W using old CPU. Serial numbers unknown.


Q809,814 DTC144ES
SWITCHING
Q809
R803 10k
R809 10k
C805 22 10V
C803 10 16V
Q814
(4)
(5)
(1)
(3)
(2)
5

OLD CPU

COUNTERMEASURE FOR RECORD/FORWARD PAUSE ON/OFF NOISE

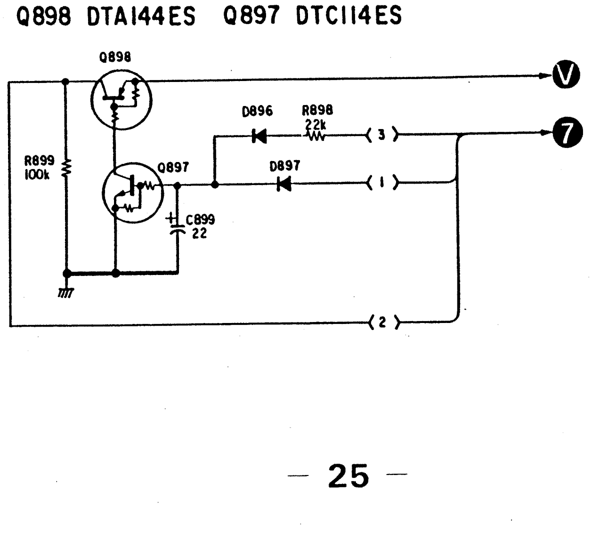
Some later units of both TC-V11W and TC-V33W using old-type CPU. Serial numbers are unknown.


D899
Q899
D898
(2)
(3)
(1)
Q899 DTA144ES
6

NEW CPU

COUNTERMEASURE FOR RECORD-MUTING OPERATION

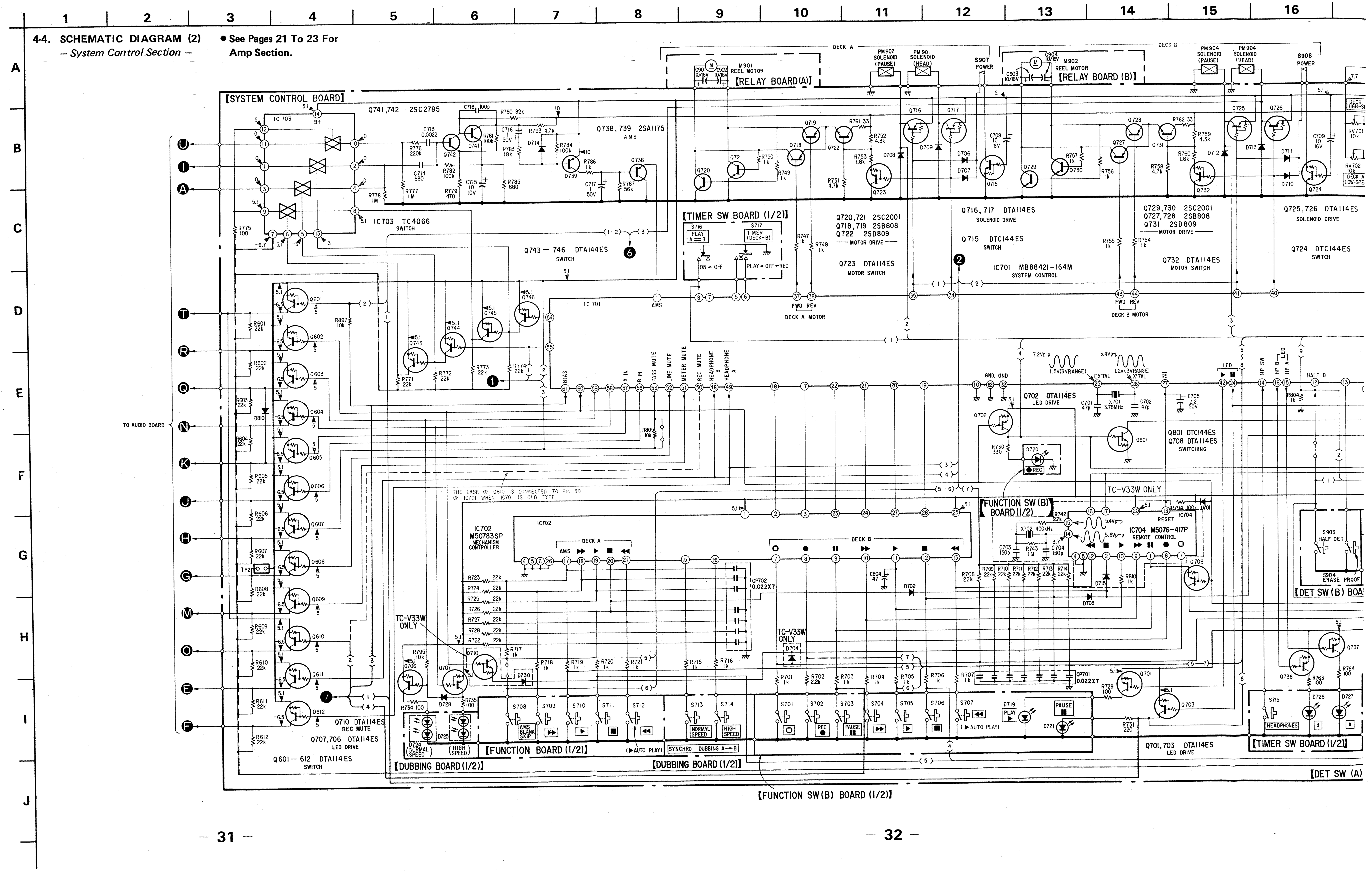
TC-V11W:
E Model: Serials up to 600600
TC-V33W:
AEP Model: Serials 500101 to 500300
E Model: Serials 600601 to 601400

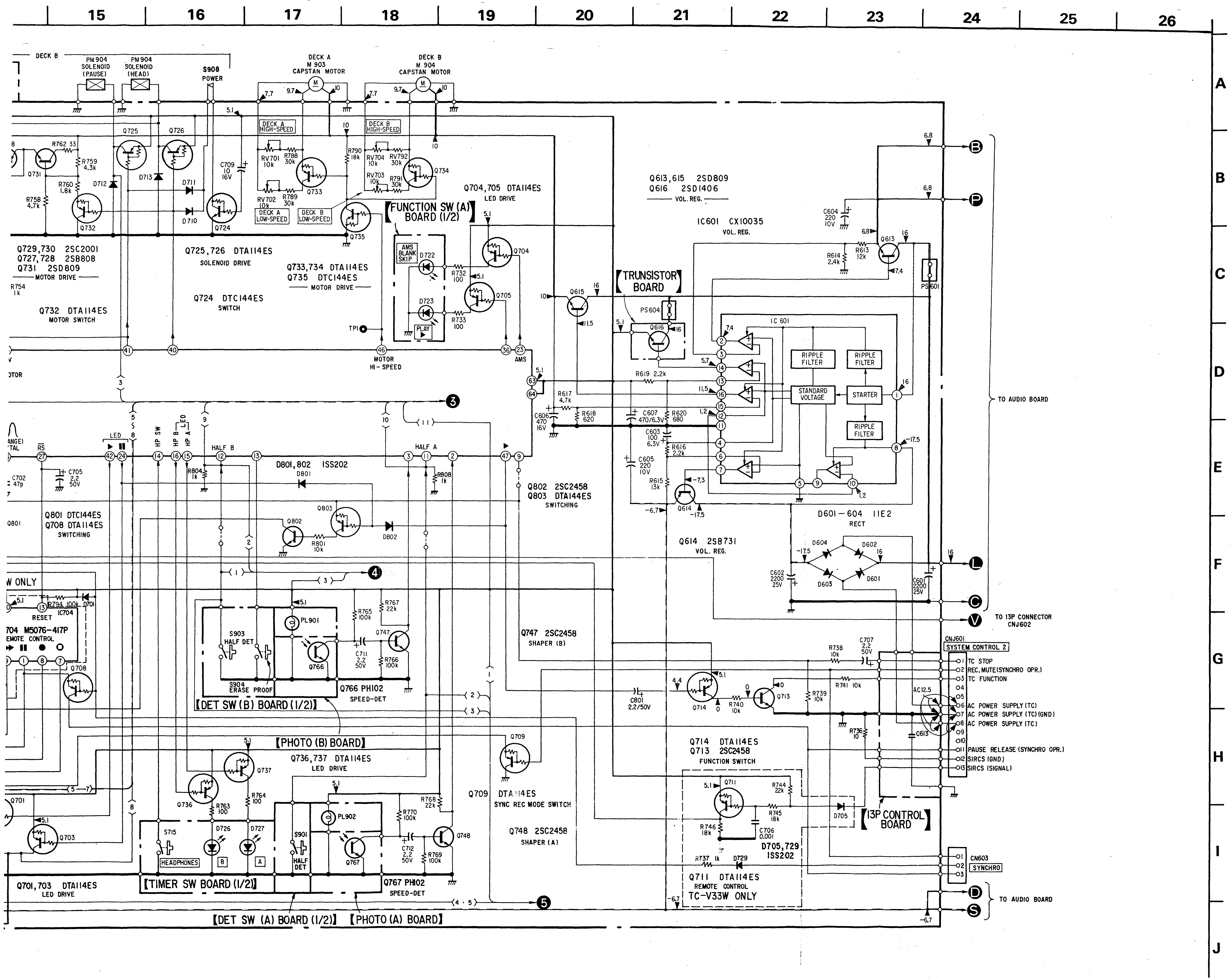

Q898 DTA144ES Q897 DTC114ES
Q898
D896
R898 22k
R899 100k
Q897
D897
C899 22
(3)
(1)
(2)
V
7

4-4. SCHEMATIC DIAGRAM (2)

– System Control Section –

- **See Pages 21 To 23 For Amp Section.**


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
[SYSTEM CONTROL BOARD]
IC 703 TC4066 SWITCH
Q741,742 2SC2785
Q738,739 2SA1175 AMS
Q743 — 746 DTA144ES SWITCH
DECK A
M901 REEL MOTOR
[RELAY BOARD(A)]
PM902 SOLENOID (PAUSE)
PM901 SOLENOID (HEAD)
S907 POWER
DECK B
M902 REEL MOTOR
[RELAY BOARD (B)]
PM904 SOLENOID (PAUSE)
PM904 SOLENOID (HEAD)
S908 POWER
[TIMER SW BOARD (1/2)]
S716 PLAY A ⇄ B
S717 TIMER (DECK-B)
ON — OFF
PLAY — OFF — REC
Q720,721 2SC2001
Q718,719 2SB808
Q722 2SD809
MOTOR DRIVE
Q723 DTA114ES MOTOR SWITCH
Q716,717 DTA114ES SOLENOID DRIVE
Q715 DTC144ES SWITCH
IC701 MB88421-164M SYSTEM CONTROL
Q729,730 2SC2001
Q727,728 2SB808
Q731 2SD809
MOTOR DRIVE
Q732 DTA114ES MOTOR SWITCH
Q725,726 DTA114ES SOLENOID DRIVE
Q724 DTC144ES SWITCH
FWD REV DECK A MOTOR
FWD REV DECK B MOTOR
TO AUDIO BOARD
IC 701
AMS
BIAS
A IN
B IN
PASS MUTE
LINE MUTE
METER MUTE
REC MUTE
HEADPHONE B
HEADPHONE A
GND. GND
7.2Vp-p
1.5V(3VRANGE)
3.4Vp-p
1.2V(3VRANGE)
EX'TAL
X'TAL
X701 3.78MHz
Q702 DTA114ES LED DRIVE
Q801 DTC144ES
Q708 DTA114ES
SWITCHING
LED
HP SW
HP B_LED
HP A_LED
HALF B
TC-V33W ONLY
[FUNCTION SW(B) BOARD (1/2)]
IC704 M5076-417P REMOTE CONTROL
RESET
X702 400kHz
5.4Vp-p
5.6Vp-p
THE BASE OF Q610 IS CONNECTED TO PIN 50 OF IC701 WHEN IC701 IS OLD TYPE.
IC702 M50783SP MECHANISM CONTROLLER
DECK A
AMS
DECK B
CP702 0.022X7
CP701 0.022X7
TC-V33W ONLY
S903 HALF DET
S904 ERASE PROOF
[DET SW (B) BOARD]
Q710 DTA114ES REC MUTE
Q707,706 DTA114ES LED DRIVE
Q601 — 612 DTA114ES SWITCH
D724 (NORMAL SPEED)
(HIGH SPEED)
[DUBBING BOARD (1/2)]
S708 AMS BLANK SKIP
S709 S710 S711 S712
(▶AUTO PLAY)
[FUNCTION BOARD (1/2)]
S713 NORMAL SPEED
S714 HIGH SPEED
SYNCHRO DUBBING A → B
[DUBBING BOARD (1/2)]
S701 S702 REC S703 PAUSE S704 S705 S706
S707 (▶AUTO PLAY)
D719 PLAY
D721 PAUSE
[FUNCTION SW(B) BOARD (1/2)]
Q701,703 DTA114ES LED DRIVE
S715 HEADPHONES
D726 B
D727 A
[TIMER SW BOARD (1/2)]
[DET SW (A)
DECK HIGH-SP
RV701 10k
RV702 10k
DECK A LOW-SPEED
D720 REC


15
16
17
18
19
20
21
22
23
24
25
26
A
B
C
D
E
F
G
H
I
J
DECK B
PM904 SOLENOID (PAUSE)
PM904 SOLENOID (HEAD)
S908 POWER
DECK A M 903 CAPSTAN MOTOR
DECK B M 904 CAPSTAN MOTOR
DECK A HIGH-SPEED
DECK B HIGH-SPEED
DECK A LOW-SPEED
DECK B LOW-SPEED
Q725
Q726
Q731
Q732
Q724
Q733
Q734
Q735
Q729,730 2SC2001
Q727,728 2SB808
Q731 2SD809
MOTOR DRIVE
Q732 DTA114ES
MOTOR SWITCH
Q725,726 DTA114ES
SOLENOID DRIVE
Q724 DTC144ES
SWITCH
Q733,734 DTA114ES
Q735 DTC144ES
MOTOR DRIVE
Q704,705 DTA114ES
LED DRIVE
FUNCTION SW (A) BOARD (1/2)
AMS BLANK SKIP
D722
D723
PLAY
Q704
Q705
TP1
MOTOR HI-SPEED
AMS
Q613,615 2SD809
Q616 2SD1406
VOL. REG.
IC601 CX10035
VOL. REG.
TRUNSISTOR BOARD
PS604
PS601
Q615
Q616
Q613
IC 601
RIPPLE FILTER
STANDARD VOLTAGE
STARTER
Q614
Q614 2SB731
VOL. REG.
D601 – 604 11E2
RECT
D601
D602
D603
D604
TO AUDIO BOARD
TO 13P CONNECTOR CNJ602
HALF B
HALF A
LED
HP SW
HP B
HP A
D801,802 1SS202
D801
D802
Q802 2SC2458
Q803 DTA144ES
SWITCHING
Q801 DTC144ES
Q708 DTA114ES
SWITCHING
Q802
Q803
W ONLY
RESET
IC704
704 M5076-417P
REMOTE CONTROL
Q708
S903 HALF DET
S904 ERASE PROOF
PL901
Q766
Q747
Q766 PH102
SPEED-DET
DET SW (B) BOARD (1/2)
Q747 2SC2458
SHAPER (B)
PHOTO (B) BOARD
Q736,737 DTA114ES
LED DRIVE
Q709
Q709 DTA114ES
SYNC REC MODE SWITCH
Q748 2SC2458
SHAPER (A)
Q701
Q703
Q736
Q737
S715
HEADPHONES
D726
D727
S901
HALF DET
PL902
Q767
Q748
Q701,703 DTA114ES
LED DRIVE
TIMER SW BOARD (1/2)
Q767 PH102
SPEED-DET
DET SW (A) BOARD (1/2)
PHOTO (A) BOARD
Q714
Q713
Q714 DTA114ES
Q713 2SC2458
FUNCTION SWITCH
Q711
D705
D729
D705,729 1SS202
Q711 DTA114ES
REMOTE CONTROL
TC-V33W ONLY
13P CONTROL BOARD
CNJ601
SYSTEM CONTROL 2
TC STOP
REC. MUTE (SYNCHRO OPR.)
TC FUNCTION
AC POWER SUPPLY (TC)
AC POWER SUPPLY (TC) (GND)
AC POWER SUPPLY (TC)
PAUSE RELEASE (SYNCHRO OPR.)
SIRCS (GND)
SIRCS (SIGNAL)
CN603
SYNCHRO
B
P
L
C
V
D
S
❸
❹
❺

Note For Schematic Diagram:

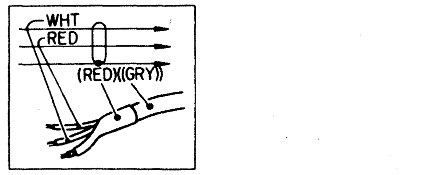
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Ref. No.	Switch	Position
S701	Record muting	OFF
S702	Record REC ●	OFF
S703	Pause ❚❚	OFF
S704	Fast Forward ▶▶	OFF
S705	Playback ▶	OFF
S706	Stop ■	OFF
S707	Auto Playback AUTO PLAY	OFF
S708	AMS/BLANK SKIP	OFF
S709	Fast Forward ▶▶	OFF
S710	Playback ▶	OFF
S711	Stop ■	OFF
S712	Rewind ◀◀	OFF
S713	NORMAL SPEED	OFF
S714	HIGH SPEED	OFF
S715	HEADPHONES	A or B
S716	PLAY A⇄B	OFF
S717	TIMER DECK B	OFF

- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B– bus.
- ☐ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions (stop mode) with a VOM (50 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Portions indicated by blue lines are dependent on new/old CPU IC701.
  Take care when tracing circuits.
- -----: OLD-TYPE CPU
- ——: NEW-TYPE CPU

Note For Mounting Diagram:

- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)((GRY))

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]← : indicates side identified with part number.
- —→— : signal path
- ━━▶ : L-CH signal path
- ━·━▶ : R-CH signal path
- ▨ : B + pattern
- ▩ : B – pattern
- -----: OLD-TYPE CPU
- ——: NEW-TYPE CPU

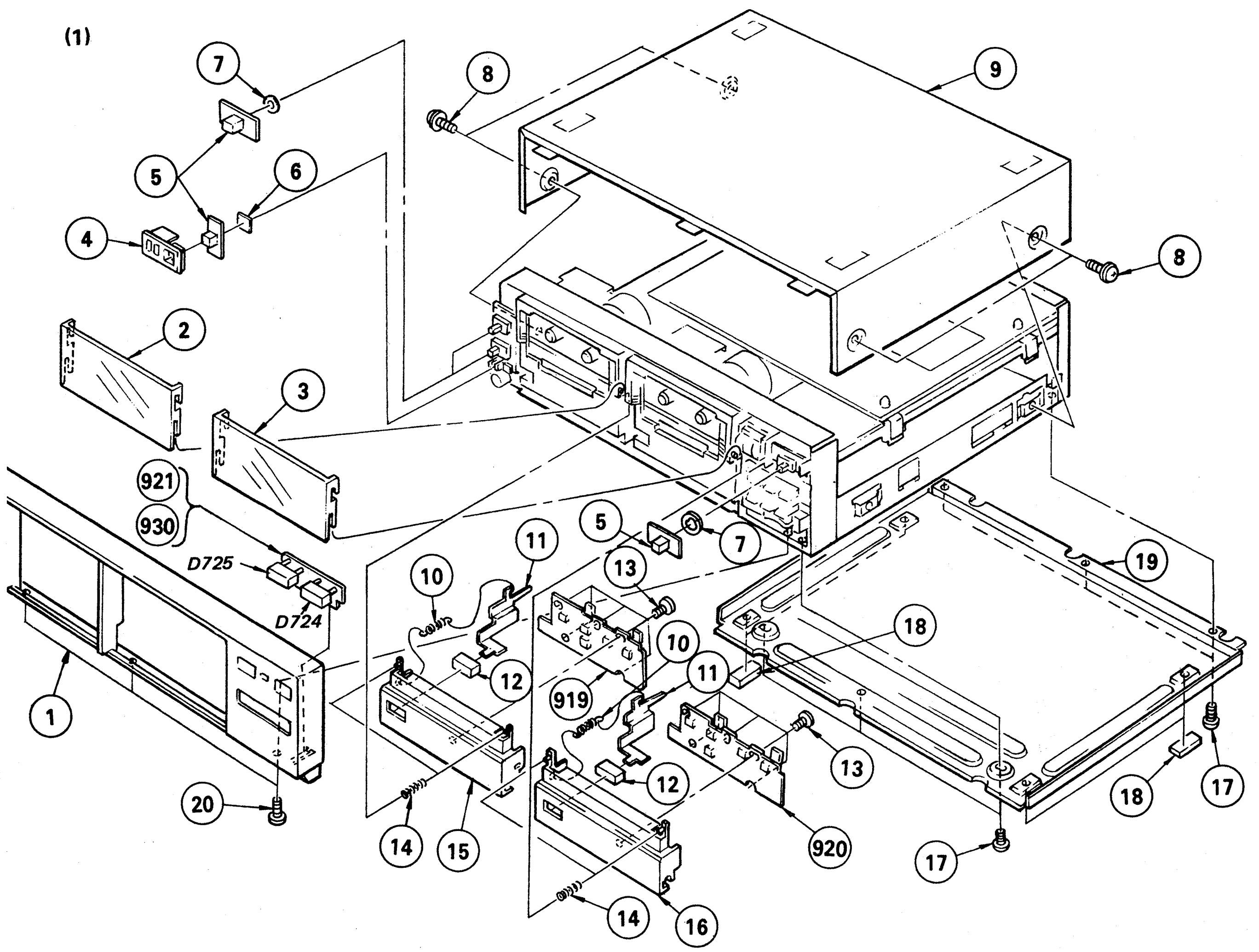
SECTION 5
EXPLODED VIEWS AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1)



o.	Part No.	Description	REMARKS
1	A-2310-281-A	PANEL ASSY, FRONT	
2	3-313-295-01	WINDOW, CASSETTE	
3	3-313-295-11	WINDOW, CASSETTE	
4	*3-323-416-01	PLATE, INDICATION, FRONT	
5	3-323-415-01	KNOB, SWITCH TIMER	
6	9-911-815-01	CSHION	
7	3-701-438-21	WASHER	
8	4-886-821-01	SCREW, M3 CASE	
9	3-313-223-41	CASE	
10	3-540-244-00	SPRING, TENSION	
11	*3-323-411-01	SLIDER, EJECT	
12	3-323-410-01	BUTTON, EJECT	
13	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
14	3-323-484-01	SPRING, COMPRESSION	
15	X-3313-208-1	(TC-V11W)...PANEL (A) ASSY, CONTROL	
15	X-3313-207-1	(TC-V33W)...PANEL (A) ASSY, CONTROL	
16	X-3313-206-1	PANEL (B) ASSY, CONTROL	
17	3-703-108-21	SCREW +BV 3X6, S TIGHT	
18	3-323-476-01	FOOT	
19	*3-323-422-01	PLATE, BOTTOM	
22	7-685-751-09	SCREW +BVTT 3X6 (S)	
9	*1-614-638-11	PC BOARD, CONTROL SW (A)	
20	*1-614-939-11	PC BOARD, CONTROL SW (B)	

No.	Part No.	Description	REMARKS
921	*1-614-940-13	PC BOARD, SYSTEM CONTROL INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS	
930	*A-2056-254-A	PC BOARD ASSY, SYSTEM CONTROL (INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS)	

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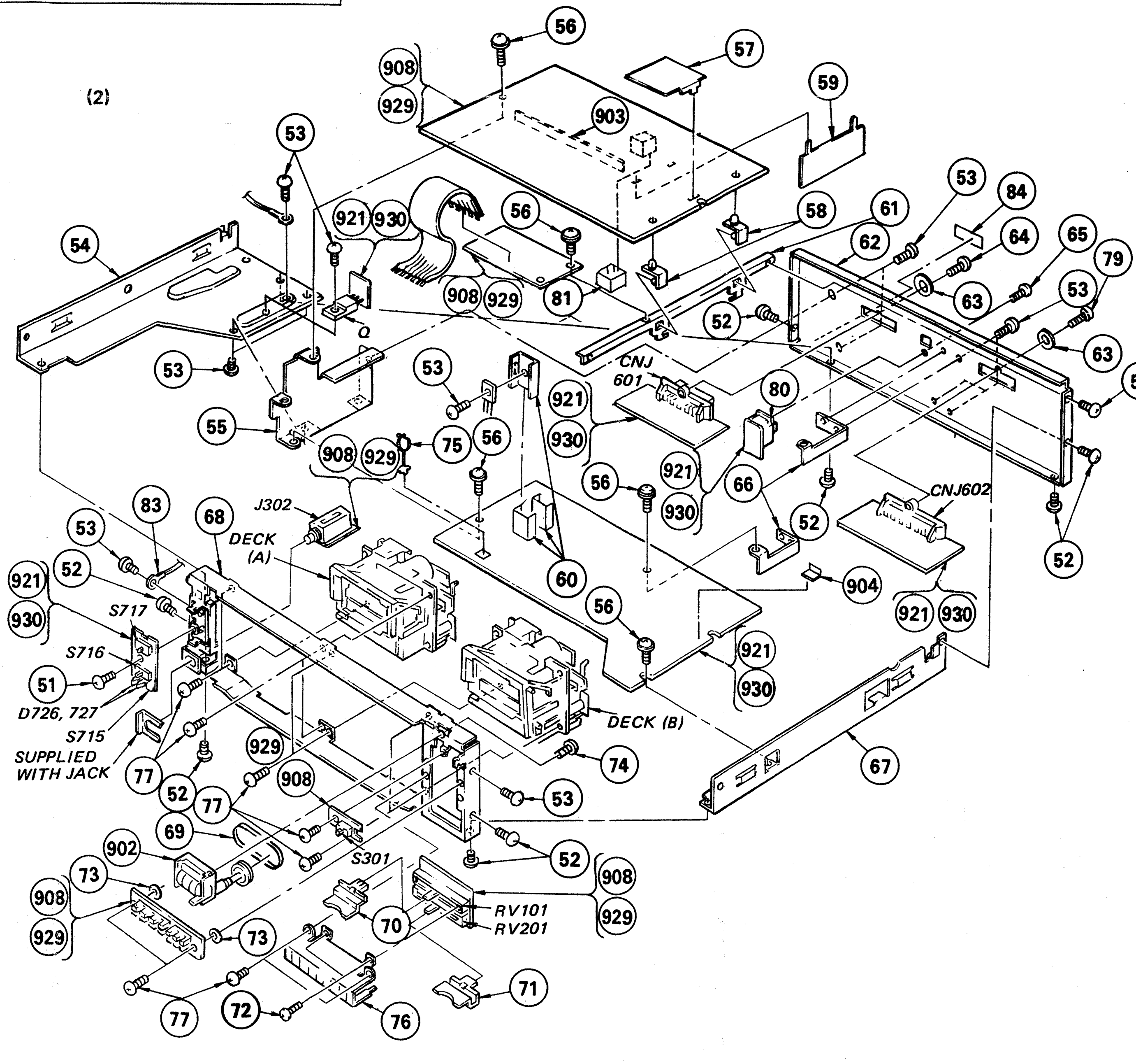

No.	Part No.	Description	REMARKS
51	7-685-791-04	SCREW +BVTT 2.6X5 (S)	
52	7-685-752-04	SCREW +BVTT 3X8 (S)	
53	7-685-871-01	SCREW +BVTT 3X6 (S)	
54	*3-313-217-00	PLATE, SIDE, LEFT	
55	*3-323-419-01	BRACKET, PC BOARD	
56	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6	
57	*3-322-817-01	PLATE (2), SHIELD	
58	*3-701-832-00	HINGE, CIRCUIT BOARD	
59	*3-322-816-01	PLATE (1), SHIELD	
60	*3-312-615-31	HEAT SINK	
61	*3-323-420-01	PLATE, RELAY	
62	*3-313-297-31	(TC-V11W :E) ...PLATE, JACK	
62	*3-313-297-21	(TC-V33W)...PLATE, JACK	
62	*3-313-297-01	(TC-V33W:E)...PANEL, JACK	
63	7-688-002-01	WASHER, SMALL 2.6 (t=0.5)	
64	7-685-646-11	SCREW +BVTP 3X8 TYPE 2 S	
65	7-685-133-11	SCREW +PTP 2.6X6 TYPE 2 N-S	
66	*3-323-408-01	BRACKET, AUDIO PC BOARD	
67	*3-313-210-00	PLATE, SIDE, RIGHT	
68	*3-323-421-01	CHASSIS, AMPLIFIER	
69	3-578-512-00	BELT, TAKE-UP	
70	3-312-949-00	KNOB (LEFT), CONTROL	
71	3-312-948-00	KNOB (RIGHT), CONTROL	
72	7-621-772-00	SCREW +B 2X3	
73	4-903-312-00	WASHER 3 (t=0.8)	
74	7-685-131-11	SCREW +PTP 2.6X4 TYPE 2 S	
75	3-315-159-01	PURSE LOCK (DIA. 14)	
76	3-323-406-01	PLATE, ORNAMENTAL, REC CONTROL	
77	7-685-751-09	SCREW +BVTT 3X6 (S)	
79	3-703-473-00	SCREW, TERMINAL	
80	3-322-819-01	HOLDER, CONNECTOR	
81	*3-323-473-01	CASE, SHIELD	
82	4-866-397-00	CUSHION, LED	

Ref.No.	Part No.	Description	REMARKS
83	7-623-508-01	LUG, 3	
84	*4-302-759-00	LABEL, SERIAL NUMBER	
85	*4-875-466-00	JOINT (F2), KNOB	
86	*3-646-067-00	PURSE LOCK, T	
87	*3-701-030-00	LABEL, SERIAL NUMBER	
88	*3-701-417-00	PURSE LOCK (11 DIA.)	
89	9-911-841-XX	CUSHION	
90	7-682-546-04	SCREW +P 3X5	
902	1-548-563-81	COUNTER, TAPE	
903	*1-560-242-31	BUS BAR 5P	
904	*1-564-505-11	PLUG, CONNECTOR 2P	
908	*1-613-649-11	PC BOARD, AUDIO INCLUDING LED (A), LED (B), REC LEVEL CONTROL, DOLBY, SWITCH, AND HEADPHONE JACK BOARDS	
921	*1-614-940-13	PC BOARD, SYSTEM CONTROL INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS	
929	*A-2056-250-A	PC BOARD ASSY, AUDIO (INCLUDING LED (A), LED (B), REC LEVEL CONTROL, DOLBY, SWITCH, AND HEADPHONE JACK BOARDS)	
930	*A-2056-254-A	PC BOARD ASSY, SYSTEM CONTROL (INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS)	

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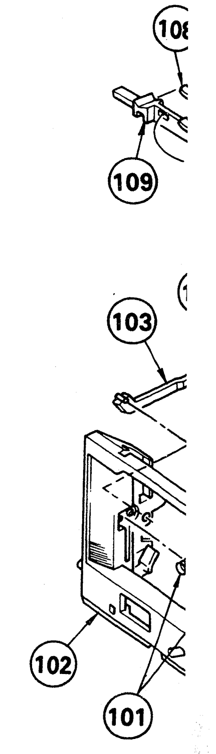
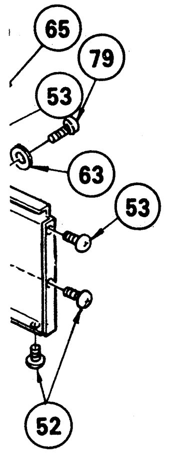


No.	Part No.
102	3-319-700-
103	3-319-613-
104	3-312-441-
105	X-3313-20
106	7-621-775-
107	3-319-694-
108	3-575-346-
109	*3-319-611-
110	3-319-669-
111	3-312-432-
112	*3-319-709-
113	*3-319-702-
113	3-575-457-
114	7-623-924-
115	X-3319-62
116	3-319-713-
117	3-319-715-
118	3-319-718-
118	3-319-718-
119	3-319-719-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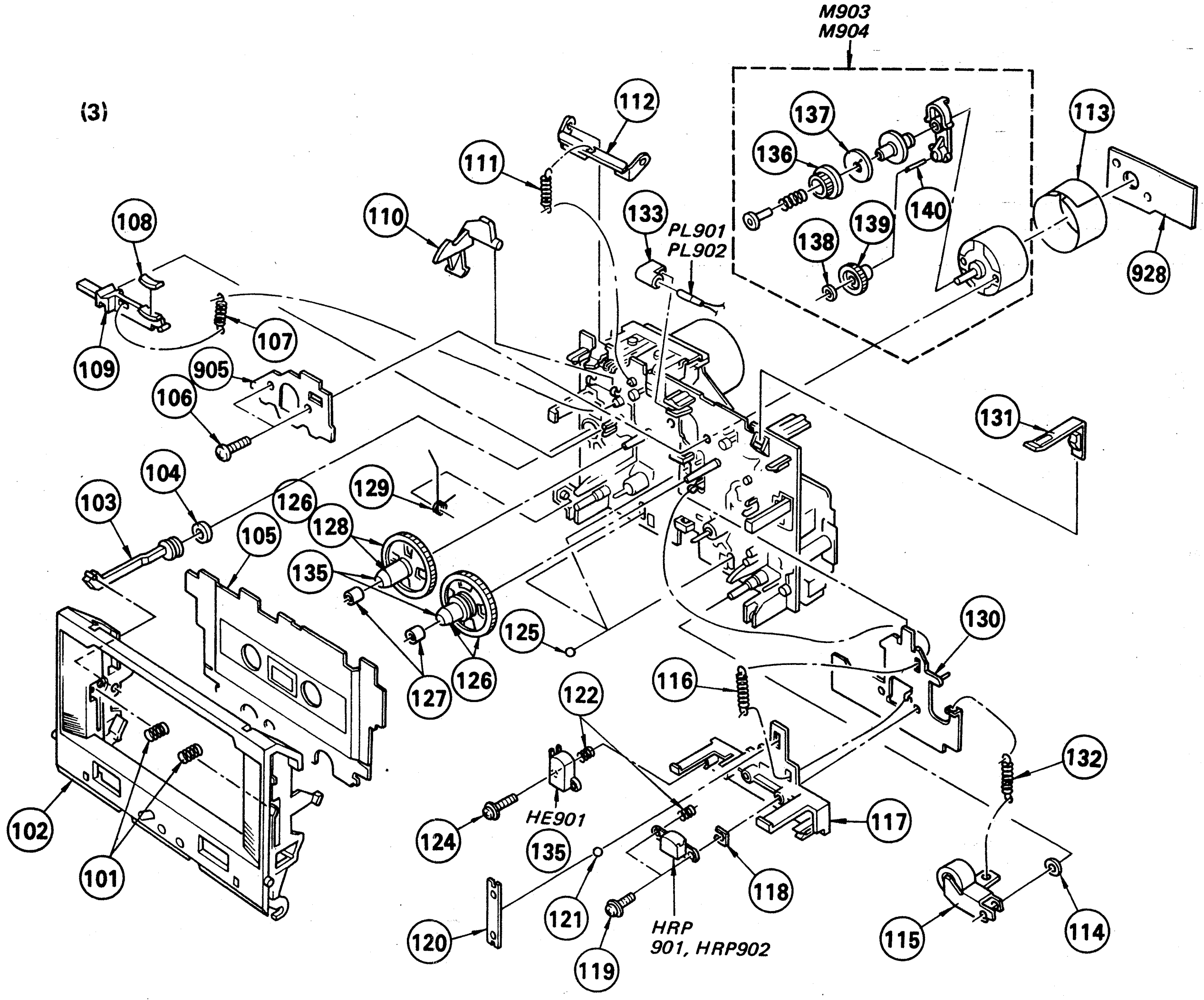
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No.	Part No.	Description	REMARKS
102	3-319-700-01	HOLDER, CASSETTE	
103	3-319-613-01	PISTON (B)	
104	3-312-441-00	RING, PISTON	
105	X-3313-209-1	RETAINER ASSY, CASSETTE	
106	7-621-775-60	SCREW +B 2.6X12	
107	3-319-694-01	SPRING, TENSION	
108	3-575-346-01	FELT, BRAKE	
109	*3-319-611-01	LEVER (LEFT), BACK TENSION	
110	3-319-669-01	LEVER, EJECT	
111	3-312-432-00	SPRING, TENSION	
112	*3-319-709-01	LEVER (B), LIFT, SWITCH	
113	*3-319-702-01	(DECK B)...PLATE, SHIELD, REEL MOTOR	
113	3-575-457-00	PLATE (B), SHIELD, MOTOR	
114	7-623-924-11	WASHER 3.0, NYLONE	
115	X-3319-625-1	PINCH LEVER ASSY	
116	3-319-713-01	SPRING, TENSION	
117	3-319-715-01	BRACKET, HEAD	
118	3-319-718-01	SHIM, ADJUSTMENT, HEAD	
118	3-319-718-11	SHIM, ADJUSTMENT, HEAD	
119	3-319-719-01	SCREW, TOOTHED LOCK (+- 2X13)	

Ref.No.	Part No.	Description	REMARKS
120	*3-319-601-11	SPRING	
121	7-671-112-11	BALL, STEEL	
122	3-319-712-01	SPRING, COMPRESSION	
123	*X-3319-624-1	CHASSIS (S) ASSY, HEAD	
124	3-703-496-00	SCREW +PWH 2X14	
125	7-671-112-01	BALL, STEEL	
126	X-3319-626-1	TABLE (L) ASSY, REEL	
127	3-319-607-01	BUSHING, REEL TABLE	
128	X-3319-627-1	(DECK B)...TABLE (L) (CB) ASSY, REEL	
129	3-319-614-01	SPRING	
131	3-319-717-01	SPRING	
132	3-319-711-01	SPRING, TENSION	
133	3-319-636-01	RUBBER, LAMP HOLDER	
134	3-319-716-01	(DECK A)...GUIDE, TAPE	
135	3-531-760-00	CLAW, REEL SPINDLE	
136	3-575-324-00	GEAR, LIMITER	
137	3-564-027-11	FELT, LIMITER	
138	3-307-394-00	RETAINER (B), THRUST	
139	3-575-332-00	GEAR, FR	
140	3-575-304-00	SHAFT, GEAR, FR	
905	*1-612-725-11	PC BOARD, PH.T	
928	*1-615-080-11	PC BOARD, TRANSLATION	

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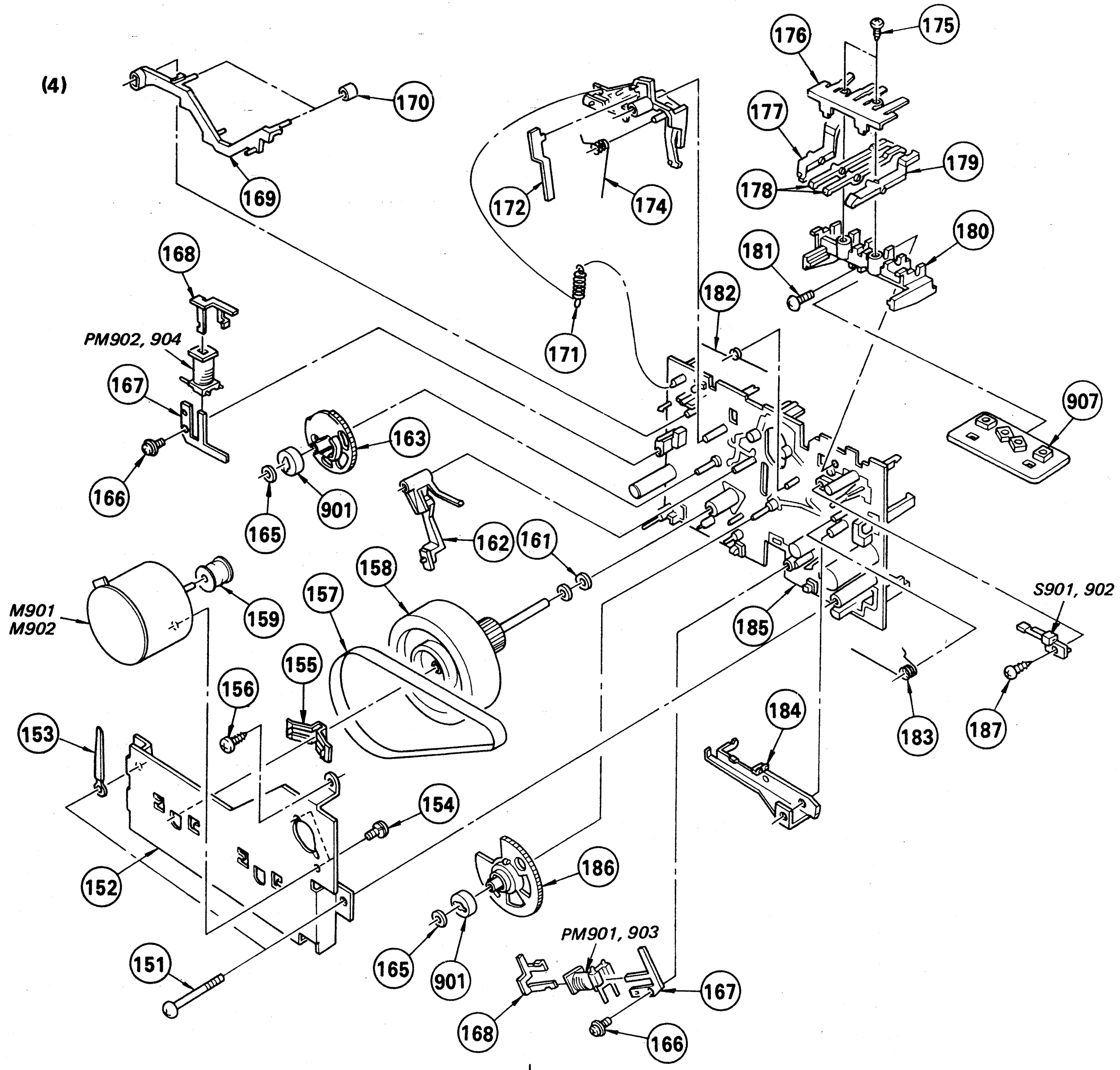
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PM901, 903
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S901, 902
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No.	Part No.	Description	REMARKS
151	7-685-879-01	SCREW +BVTT 3X30 (S)	
152	*3-319-665-01	RETAINER, THRUST	
153	3-703-150-11	CLAMP	
154	7-628-253-95	SCREW +PS 2.6X4 TYPE 2 SLIT	
155	3-319-608-01	RETAINER, THRUST	
156	7-685-645-11	SCREW +BVTP 3X6 TYPE2 N-S	
157	3-319-710-01	BELT (R), CAPSTAN	
158	X-3319-630-1	FLYWHEEL (T) ASSY	
159	X-3319-617-1	PULLEY ASSY	
161	3-307-482-00	WASHER, LUMILER	
162	*X-3319-615-1	LEVER ASSY, FWD LOCK	
163	3-319-688-01	GEAR, PAUSE CAM	
165	3-307-394-00	RETAINER (B), THRUST	
166	7-687-204-21	TOTSU PTPWH 2X6 NON-SLIT, TYPE2	
167	3-307-332-00	ARBOR, FIXED	
168	3-307-333-00	ARBOR, TRIGGER	
169	*3-319-668-01	PLATE, BRAKE	
170	3-319-662-01	RUBBER, BRAKE	
171	3-555-124-00	SPRING, TENSION	
172	3-319-612-01	SPRING	
173	*X-3319-614-1	LEVER ASSY, PAUSE	
174	3-319-606-01	SPRING	
175	7-685-131-21	SCREW +P 2.6X4 TYPE2 SLIT	
176	3-319-602-01	SPRING	

Ref.No.	Part No.	Description	REMARKS
177	3-319-605-01	(DECK B)...LEVER, METAL	
178	3-319-603-01	LEVER, REC DETECTION	
179	3-319-604-01	LEVER, HALF DETECTION	
180	3-319-670-01	HOLDER, SWITCH, DETECTION	
181	7-685-865-01	SCREW +BVTT 2.6X12 (S)	
182	3-319-649-01	SPRING	
183	3-319-633-01	SPRING	
184	*3-319-676-11	LEVER, FWD	
185	X-3319-628-1	CHASSIS ASSY, MECHANICAL	
186	3-319-689-01	GEAR, FWD CAM	
187	7-685-132-21	SCREW +P 2.6X5 TYPE2 SLIT	
901	1-452-202-00	MAGNET	
907	*1-613-523-11	PC BOARD, DETECTION SW	

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	1-452-202-00	MAGNET			
902	1-548-563-81	COUNTER, TAPE			
903	*1-560-242-31	BUS BAR 5P			
904	*1-564-505-11	PLUG, CONNECTOR 2P			
905	*1-612-725-11	PC BOARD, PH.T			
907	*1-613-523-11	PC BOARD, DETECTION SW			
908	*1-613-649-11	PC BOARD, AUDIO INCLUDING LED (A), LED (B), REC LEVEL CONTROL, DOLBY, SWITCH, AND HEADPHONE JACK BOARDS			
919	*1-614-638-11	PC BOARD, CONTROL SW (A)			
920	*1-614-939-11	PC BOARD, CONTROL SW (B)			
921	*1-614-940-13	PC BOARD, SYSTEM CONTROL INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS			
928	*1-615-080-11	PC BOARD, TRANSLATION			
929	*A-2056-250-A	PC BOARD ASSY, AUDIO (INCLUDING LED (A), LED (B), REC LEVEL CONTROL, DOLBY, SWITCH, AND HEADPHONE JACK BOARDS)			
930	*A-2056-254-A	PC BOARD ASSY, SYSTEM CONTROL (INCLUDING 13-PIN INPUT/OUTPUT, 13-PIN CONTROL, TIMER SWITCH, SYNCRO, TRANSISTOR AND DUBBING SWITCH BOARDS)			
C101	1-123-380-00	ELECT	1MF	20%	50V
C102	1-123-356-00	ELECT	10MF	20%	16V
C103	1-162-288-31	CERAMIC	330PF	10%	50V
C104	1-136-157-00	FILM	0.022MF	5%	50V
C105	1-123-369-00	ELECT	4.7MF	20%	50V
C106	1-136-158-00	FILM	0.027MF	5%	50V
C107	1-136-158-00	FILM	0.027MF	5%	50V
C108	1-162-288-31	CERAMIC	330PF	10%	50V
C109	1-136-157-00	FILM	0.022MF	5%	50V
C110	1-123-369-00	ELECT	4.7MF	20%	50V
C111	1-136-158-00	FILM	0.027MF	5%	50V
C112	1-123-380-00	ELECT	1MF	20%	50V
C113	1-123-380-00	ELECT	1MF	20%	50V
C114	1-123-369-00	ELECT	4.7MF	20%	50V
C115	1-136-153-00	FILM	0.01MF	5%	50V
C116	1-136-155-00	FILM	0.015MF	5%	50V
C117	1-136-153-00	FILM	0.01MF	5%	50V
C118	1-136-163-00	FILM	0.068MF	5%	50V
C119	1-136-168-00	FILM	0.18MF	5%	50V
C120	1-136-158-00	FILM	0.027MF	5%	50V
C121	1-123-380-00	ELECT	1MF	20%	50V
C122	1-136-168-00	FILM	0.18MF	5%	50V
C123	1-136-170-00	FILM	0.27MF	5%	50V
C124	1-136-166-00	FILM	0.12MF	5%	50V
C125	1-136-163-00	FILM	0.068MF	5%	50V
C126	1-123-369-00	ELECT	4.7MF	20%	50V
C127	1-123-380-00	ELECT	1MF	20%	50V
C128	1-123-307-00	ELECT	100MF	20%	10V
C129	1-123-369-00	ELECT	4.7MF	20%	50V
C130	1-136-157-00	FILM	0.022MF	5%	50V
C131	1-110-206-00	MYLAR	0.0082MF	5%	50V
C132	1-136-153-00	FILM	0.01MF	5%	50V
C133	1-110-204-00	MYLAR	0.0056MF	5%	50V
C134	1-110-206-00	MYLAR	0.0082MF	5%	50V
C135	1-110-204-00	MYLAR	0.0056MF	5%	50V
C136	1-136-161-00	FILM	0.047MF	5%	50V
C137	1-136-154-00	FILM	0.012MF	5%	50V
C138	1-136-154-00	FILM	0.012MF	5%	50V
C139	1-136-153-00	FILM	0.01MF	5%	50V
C140	1-136-153-00	FILM	0.01MF	5%	50V
C141	1-136-157-00	FILM	0.022MF	5%	50V
C145	1-107-167-00	MICA	75PF	5%	500V
C146	1-107-163-00	MICA	47PF	5%	500V
C147	1-162-293-31	CERAMIC	820PF	10%	50V
C148	1-123-369-00	ELECT	4.7MF	20%	50V
C149	1-136-166-00	FILM	0.12MF	5%	50V
C151	1-162-294-31	CERAMIC	0.001MF	10%	50V
C152	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-123-611-00	ELECT	1MF	20%	50V
C302	1-123-612-00	ELECT	2.2MF	20%	50V
C303	1-123-611-00	ELECT	1MF	20%	50V
C501	1-123-380-00	ELECT	1MF	20%	50V
C502	1-123-380-00	ELECT	1MF	20%	50V
C503	1-123-380-00	ELECT	1MF	20%	50V
C504	1-123-380-00	ELECT	1MF	20%	50V
C505	1-123-369-00	ELECT	4.7MF	20%	50V
C506	1-123-369-00	ELECT	4.7MF	20%	50V
C507	1-129-708-00	FILM	0.0033MF	10%	630V
C508	1-130-293-00	FILM	0.0068MF	5%	100V
C509	1-130-287-00	FILM	0.0039MF	5%	100V
C510	1-130-293-00	FILM	0.0068MF	5%	100V
C511	1-123-381-00	ELECT	2.2MF	20%	50V
C512	1-123-379-00	ELECT	0.47MF	20%	50V
C513	1-123-356-00	ELECT	10MF	20%	16V
C514	1-123-380-00	ELECT	1MF	20%	50V
C515	1-123-380-00	ELECT	1MF	20%	50V
C516	1-123-821-00	ELECT	47MF	20%	16V
C517	1-161-494-00	CERAMIC	0.022MF	30%	25V
C601	1-123-338-00	ELECT	2200MF	20%	25V
C602	1-123-338-00	ELECT	2200MF	20%	25V
C603	1-123-307-00	ELECT	100MF	20%	10V
C604	1-123-308-00	ELECT	220MF	20%	10V
C605	1-123-308-00	ELECT	220MF	20%	10V
C606	1-123-323-00	ELECT	470MF	20%	16V
C607	1-123-298-00	ELECT	470MF	20%	6.3V
C613	1-161-494-00	CERAMIC	0.022MF	30%	25V
C701	1-162-037-00	CERAMIC	100PF	5%	50V
C702	1-162-037-00	CERAMIC	100PF	5%	50V
C703	1-162-100-00	(TC-V33W)...CERAMIC	150PF	10%	50V
C704	1-162-100-00	(TC-V33W)...CERAMIC	150PF	10%	50V
C705	1-123-381-00	ELECT	2.2MF	20%	50V
C706	1-162-110-00	(TC-V33W)...CERAMIC	1000PF	10%	50V
C707	1-123-381-00	ELECT	2.2MF	20%	50V
C708	1-123-356-00	ELECT	10MF	20%	16V
C709	1-123-356-00	ELECT	10MF	20%	16V
C711	1-123-381-00	ELECT	2.2MF	20%	50V
C712	1-123-381-00	ELECT	2.2MF	20%	50V
C713	1-162-111-00	CERAMIC	0.0022MF	30%	25V
C714	1-162-108-00	CERAMIC	680PF	10%	50V
C715	1-123-356-00	ELECT	10MF	20%	16V
C716	1-123-380-00	ELECT	1MF	20%	50V
C717	1-123-379-00	ELECT	0.47MF	20%	50V
C718	1-162-282-31	CERAMIC	100PF	10%	50V
C719	1-161-494-00	CERAMIC	0.022MF	30%	25V
C720	1-123-380-00	ELECT	1MF	20%	50V
C801	1-123-380-00	ELECT	1MF	20%	50V
C802	1-123-381-00	ELECT	2.2MF	20%	50V
C803	1-123-356-00	ELECT	10MF	20%	16V
C804	1-123-306-00	ELECT	47MF	20%	10V
C805	1-123-330-00	ELECT	22MF	20%	16V
C806	1-123-306-00	ELECT	47MF	20%	10V
C901	1-123-617-00	ELECT	10MF	20%	16V
C902	1-123-617-00	ELECT	10MF	20%	16V
C903	1-123-617-00	ELECT	10MF	20%	16V
C904	1-123-617-00	ELECT	10MF	20%	16V
CN601	1-562-068-00	SOCKET, CONNECTOR 13P			
CN602	1-562-068-00	SOCKET, CONNECTOR 13P			
CNP301	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP302	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP303	*1-564-336-00	PIN, CONNECTOR 2P			
CNP304	*1-564-509-11	PLUG, CONNECTOR 6P			
CNP305	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP310	*1-564-509-11	PLUG, CONNECTOR 6P			
CNP701	*1-564-514-11	PLUG, CONNECTOR 11P			
CNP702	*1-564-511-11	PLUG, CONNECTOR 8P			
CNP703	*1-564-513-21	PLUG, CONNECTOR 10P			
CNP704	*1-564-513-41	PLUG, CONNECTOR 10P			
CNP705	*1-564-505-31	PLUG, CONNECTOR 2P			
CNP706	*1-564-505-41	PLUG, CONNECTOR 2P			
CNP709	*1-564-337-00	PIN, CONNECTOR 3P			
CNP710	*1-564-336-00	PIN, CONNECTOR 2P			
CNP711	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP712	*1-564-506-11	PLUG, CONNECTOR 3P			
CNP801	*1-564-341-11	PIN, CONNECTOR 7P			
CNP802	*1-564-339-00	PIN, CONNECTOR 5P			
CNP803	*1-564-338-00	PIN, CONNECTOR 4P			
CNP804	*1-564-337-00	PIN, CONNECTOR 3P			
CNP805	*1-564-337-00	PIN, CONNECTOR 3P			
CNP806	*1-564-336-00	PIN, CONNECTOR 2P			
CNP810	*1-564-338-00	PIN, CONNECTOR 4P			
CNP826	*1-564-336-00	PIN, CONNECTOR 2P			
CT501	1-141-225-00	CAP, TUNING, TRIMMER			
D501	8-719-107-94	DIODE 1SS202-1			
D502	8-719-107-94	DIODE 1SS202-1			
D503	8-719-107-94	DIODE 1SS202-1			
D504	8-719-107-94	DIODE 1SS202-1			
D505	8-719-107-94	DIODE 1SS202-1			
D506	8-719-107-94	DIODE 1SS202-1			
D507	8-719-107-94	DIODE 1SS202-1			
D508	8-719-107-94	DIODE 1SS202-1			
D509	8-719-107-94	DIODE 1SS202-1			
D510	8-719-107-94	DIODE 1SS202-1			
D601	8-719-200-23	DIODE 11E2			
D602	8-719-200-23	DIODE 11E2			
D603	8-719-200-23	DIODE 11E2			
D604	8-719-200-23	DIODE 11E2			
D701	8-719-107-94	DIODE 1SS202-1			
D702	8-719-107-94	DIODE 1SS202-1			
D703	8-719-107-94	DIODE 1SS202-1			
D704	8-719-107-94	(TC-V33W)...DIODE			
D705	8-719-107-94	(TC-V33W)...DIODE			
D706	8-719-107-94	DIODE 1SS202-1			
D707	8-719-107-94	DIODE 1SS202-1			
D708	8-719-107-94	DIODE 1SS202-1			
D709	8-719-107-94	DIODE 1SS202-1			
D710	8-719-107-94	DIODE 1SS202-1			
D711	8-719-107-94	DIODE 1SS202-1			
D712	8-719-107-94	DIODE 1SS202-1			
D713	8-719-107-94	DIODE 1SS202-1			
D714	8-719-107-94	DIODE 1SS202-1			
D715	8-719-107-94	(TC-V33W)...DIODE			
D719	8-719-920-07	DIODE GL-9PG12			
D720	8-719-906-55	DIODE GL-9PR12			
D721	8-719-920-06	DIODE GL-9HY12			
D722	8-719-920-07	DIODE GL-9PG12			
D723	8-719-920-07	DIODE GL-9PG12			
D724	8-719-913-59	DIODE LT-9230D			
D725	8-719-913-59	DIODE LT-9230D			
D726	8-719-907-34	DIODE GL-9NG10			
D727	8-719-907-34	DIODE GL-9NG10			
D728	8-719-107-94	DIODE 1SS202-1			
D729	8-719-107-94	(TC-V33W)...DIODE			
D730	8-719-107-94	DIODE 1SS202-1			
D801	8-719-107-94	DIODE 1SS202-1			
D802	8-719-107-94	DIODE 1SS202-1			
D803	8-719-107-94	DIODE 1SS202-1			
D804	8-719-107-94	DIODE 1SS202-1			
D805	8-719-107-94	DIODE 1SS202-1			
D806	8-719-107-94	DIODE 1SS202-1			

Ref.No.	Part No.	Description
D807	8-719-107-94	DIODE 1SS202-1
D808	8-719-107-94	DIODE 1SS202-1
D809	8-719-107-94	DIODE 1SS202-1
D810	8-719-107-94	DIODE 1SS202-1
F101	1-231-388-00	FILTER, LOW PASS
F102	1-235-186-00	ENCAPSULATED COMPONENT
F201	1-231-388-00	FILTER, LOW PASS
F202	1-235-186-00	ENCAPSULATED COMPONENT
HE901	8-825-724-00	(DECK B)...HEAD, ERASE EF-201-36
HRP901	8-825-507-80	HEAD (PP227-3602F)
HRP902	8-825-507-80	HEAD (PP227-3602F)
IC101	8-752-002-80	IC CX20028
IC102	8-759-240-66	IC TC4066BP
IC103	8-759-240-66	IC TC4066BP
IC201	8-752-002-70	IC CX20027
IC202	8-759-240-66	IC TC4066BP
IC203	8-759-240-66	IC TC4066BP
IC301	8-759-912-79	IC IR2E02
IC401	8-759-912-79	IC IR2E02
IC501	8-759-145-58	IC UPC4558C
IC502	8-759-700-04	IC NJM2043D-D
IC503	8-759-700-04	IC NJM2043D-D
IC504	8-759-145-58	IC UPC4558C
IC505	8-759-145-58	IC UPC4558C
IC506	8-759-145-58	IC UPC4558C
IC507	8-759-240-66	IC TC4066BP
IC508	8-759-240-66	IC TC4066BP
IC509	8-759-240-01	IC TC4001BP
IC510	8-759-240-01	IC TC4001BP
IC511	8-759-240-11	IC TC4011BP
IC601	8-759-700-47	IC CX10035
IC701	8-759-915-39	((TC-V11W (UK:SERIAL UP TO 600,500), TC-V33W(E:SERIAL UP TO 300,600 AEP:SERIAL UP TO 500,100))...IC MB88421-164M
IC701	8-759-915-79	((TC-V11W(UK:SERIAL 600,501 AND UP, E:SERIAL 300,601 AND UP), TC-V33W (E: SERIAL 300,601 AND UP. AEP: SERIAL 500,101 AND UP)) IC MB88421-178M
IC702	8-759-600-54	IC M50783SP
IC703	8-759-240-66	IC TC4066BP
IC704	8-759-602-47	(TC-V33W)...IC M50761-417P
J302	1-507-796-21	JACK
L101	1-408-918-11	MICRO INDUCTOR 3.3MMH
L102	1-408-917-11	MICRO INDUCTOR 2.7MMH
L103	1-408-918-11	MICRO INDUCTOR 3.3MMH
L104	1-408-923-00	MICRO INDUCTOR 8.2MMH
L105	1-408-923-00	MICRO INDUCTOR 8.2MMH
L106	1-408-923-00	MICRO INDUCTOR 8.2MMH
L107	1-408-929-00	MICRO INDUCTOR 27MMH
L201	1-408-918-11	MICRO INDUCTOR 3.3MMH
L202	1-408-917-11	MICRO INDUCTOR 2.7MMH
L203	1-408-918-11	MICRO INDUCTOR 3.3MMH
L204	1-408-923-00	MICRO INDUCTOR 8.2MMH
L205	1-408-923-00	MICRO INDUCTOR 8.2MMH
L206	1-408-923-00	MICRO INDUCTOR 8.2MMH
L207	1-408-929-00	MICRO INDUCTOR 27MMH
L501	1-408-096-00	MICRO INDUCTOR 470UH

Ref.No	Part No	Description
LED301	1-806-968-11	DIODE (LED BLOCK)
LED302	1-806-967-11	DIODE (LED BLOCK)
LED401	1-806-968-11	DIODE (LED BLOCK)
LED402	1-806-967-11	DIODE (LED BLOCK)
M901	X-3319-612-1	MOTOR ASSY, REEL
M902	X-3319-612-1	MOTOR ASSY, REEL
M903	8-835-124-01	MOTOR, DC (DNE-7101A)
M904	8-835-124-01	MOTOR, DC (DNE-7101A)
PL901	1-518-563-11	LAMP, PILOT
PL902	1-518-563-11	LAMP, PILOT
PM901	1-454-317-00	SOLENOID, PLUNGER
PM902	1-454-317-00	SOLENOID, PLUNGER
PM903	1-454-317-00	SOLENOID, PLUNGER
PM904	1-454-317-00	SOLENOID, PLUNGER
Q101	8-729-900-74	TRANSISTOR DTC143TS
Q102	8-729-900-74	TRANSISTOR DTC143TS
Q103	8-729-900-74	TRANSISTOR DTC143TS
Q104	8-729-900-74	TRANSISTOR DTC143TS
Q105	8-729-900-80	TRANSISTOR DTC114ES
Q106	8-729-900-80	TRANSISTOR DTC114ES
Q107	8-729-900-80	TRANSISTOR DTC114ES
Q108	8-729-900-80	TRANSISTOR DTC114ES
Q109	8-729-900-80	TRANSISTOR DTC114ES
Q110	8-729-900-80	TRANSISTOR DTC114ES
Q201	8-729-900-74	TRANSISTOR DTC143TS
Q202	8-729-900-74	TRANSISTOR DTC143TS
Q203	8-729-900-74	TRANSISTOR DTC143TS
Q204	8-729-900-74	TRANSISTOR DTC143TS
Q205	8-729-900-80	TRANSISTOR DTC114ES
Q206	8-729-900-80	TRANSISTOR DTC114ES
Q207	8-729-900-80	TRANSISTOR DTC114ES
Q208	8-729-900-80	TRANSISTOR DTC114ES
Q209	8-729-900-80	TRANSISTOR DTC114ES
Q210	8-729-900-80	TRANSISTOR DTC114ES
Q501	8-729-178-54	TRANSISTOR 2SC2785
Q502	8-729-178-54	TRANSISTOR 2SC2785
Q503	8-729-178-54	TRANSISTOR 2SC2785
Q504	8-729-811-22	TRANSISTOR 2SD1012-G1
Q505	8-729-900-61	TRANSISTOR DTA114ES
Q506	8-729-900-61	TRANSISTOR DTA114ES
Q507	8-729-900-65	TRANSISTOR DTA114ES
Q601	8-729-900-65	TRANSISTOR DTA144ES
Q602	8-729-900-65	TRANSISTOR DTA144ES
Q603	8-729-900-65	TRANSISTOR DTA144ES
Q604	8-729-900-65	TRANSISTOR DTA144ES
Q605	8-729-900-65	TRANSISTOR DTA144ES
Q606	8-729-900-65	TRANSISTOR DTA144ES
Q607	8-729-900-65	TRANSISTOR DTA144ES
Q608	8-729-900-65	TRANSISTOR DTA144ES
Q609	8-729-900-65	TRANSISTOR DTA144ES
Q610	8-729-900-65	TRANSISTOR DTA144ES
Q611	8-729-900-65	TRANSISTOR DTA144ES
Q612	8-729-900-65	TRANSISTOR DTA144ES
Q613	8-729-180-92	TRANSISTOR 2SD809-K
Q614	8-729-173-13	TRANSISTOR 2SB731
Q615	8-729-180-92	TRANSISTOR 2SD809-K
Q616	8-729-201-78	TRANSISTOR 2SD1406
Q701	8-729-900-65	TRANSISTOR DTA114ES
Q702	8-729-900-65	TRANSISTOR DTA114ES

Ref.No	Part No	Description			
R736	1-247-783-00	(TC-V33W)...CARBON	10	5%	1/6W
R738	1-247-855-00	CARBON	10K	5%	1/6W
R739	1-247-855-00	CARBON	10K	5%	1/6W
R740	1-247-855-00	CARBON	10K	5%	1/6W
R741	1-247-855-00	CARBON	10K	5%	1/6W
R743	1-247-903-00	(TC-V33W)...CARBON	1M	5%	1/6W
R747	1-247-831-00	CARBON	1K	5%	1/6W
R748	1-247-831-00	CARBON	1K	5%	1/6W
R749	1-247-831-00	CARBON	1K	5%	1/5W
R750	1-247-831-00	CARBON	1K	5%	1/6W
R751	1-247-847-00	CARBON	4.7K	5%	1/6W
R752	1-247-846-00	CARBON	4.3K	5%	1/6W
R753	1-247-837-00	CARBON	1.8K	5%	1/6W
R754	1-247-831-00	CARBON	1K	5%	1/6W
R755	1-247-831-00	CARBON	1K	5%	1/6W
R756	1-247-831-00	CARBON	1K	5%	1/6W
R757	1-247-831-00	CARBON	1K	5%	1/6W
R758	1-247-847-00	CARBON	4.7K	5%	1/6W
R759	1-247-846-00	CARBON	4.3K	5%	1/6W
R760	1-247-837-00	CARBON	1.8K	5%	1/6W
R761	1-247-204-00	CARBON	33	5%	1/2W
R762	1-247-204-00	CARBON	33	5%	1/2W
R763	1-247-807-00	CARBON	100	5%	1/6W
R764	1-247-807-00	CARBON	100	5%	1/6W
R765	1-247-879-00	CARBON	100K	5%	1/6W
R766	1-247-879-00	CARBON	100K	5%	1/6W
R767	1-247-863-00	CARBON	22K	5%	1/6W
R768	1-247-863-00	CARBON	22K	5%	1/6W
R769	1-247-879-00	CARBON	100K	5%	1/6W
R770	1-247-879-00	CARBON	100K	5%	1/6W
R771	1-247-863-00	CARBON	22K	5%	1/6W
R772	1-247-863-00	CARBON	22K	5%	1/6W
R773	1-247-863-00	CARBON	22K	5%	1/6W
R774	1-247-863-00	CARBON	22K	5%	1/6W
R775	1-247-879-00	CARBON	100K	5%	1/6W
R776	1-247-887-00	CARBON	220K	5%	1/6W
R777	1-247-903-00	CARBON	1M	5%	1/6W
R778	1-247-903-00	CARBON	1M	5%	1/6W
R779	1-247-823-00	CARBON	470	5%	1/6W
R780	1-247-877-00	CARBON	82K	5%	1/6W
R781	1-247-879-00	CARBON	100K	5%	1/6W
R782	1-247-879-00	CARBON	100K	5%	1/6W
R783	1-247-861-00	CARBON	18K	5%	1/6W
R784	1-247-879-00	CARBON	100K	5%	1/6W
R785	1-247-827-00	CARBON	680	5%	1/6W
R786	1-247-831-00	CARBON	1K	5%	1/6W
R787	1-247-875-00	CARBON	68K	5%	1/6W
R788	1-247-866-00	CARBON	30K	5%	1/6W
R789	1-247-866-00	CARBON	30K	5%	1/6W
R790	1-247-861-00	CARBON	18K	5%	1/6W
R791	1-247-866-00	CARBON	30K	5%	1/6W
R792	1-247-866-00	CARBON	30K	5%	1/6W
R793	1-247-847-00	CARBON	4.7K	5%	1/6W
R794	1-247-879-00	CARBON	100K	5%	1/6W
R795	1-247-855-00	CARBON	10K	5%	1/6W

Ref.No.	Part No.	Description			
R801	1-247-855-00	CARBON	10K	5%	1/6W
R802	1-247-879-00	CARBON	100K	5%	1/6W
R803	1-247-855-00	CARBON	10K	5%	1/6W
R804	1-247-831-00	CARBON	1K	5%	1/6W
R805	1-247-855-00	CARBON	10K	5%	1/6W
R806	1-247-839-00	CARBON	2.2K	5%	1/6W
R807	1-247-839-00	CARBON	2.2K	5%	1/6W
R808	1-247-831-00	CARBON	1K	5%	1/6W
R809	1-247-855-00	CARBON	10K	5%	1/6W
R810	1-247-831-00	CARBON	1K	5%	1/6W
RV101	1-228-670-00	RES, VAR, SLIDE 20K(REC LEVEL)			
RV102	1-226-236-00	RES, ADJ, CARBON 10K(DECK A PB LEVEL)			
RV103	1-226-236-00	RES, ADJ, CARBON 10K(DECK B PB LEVEL)			
RV104	1-226-236-00	RES, ADJ, CARBON 10K(DECK B REC LEVEL)			
RV105	1-226-236-00	RES, ADJ, CARBON 10K(METER LEVEL)			
RV201	1-228-670-00	RES, VAR, SLIDE 20K(REC LEVEL)			
RV202	1-226-236-00	RES, ADJ, CARBON 10K(DECK A PB LEVEL)			
RV203	1-226-236-00	RES, ADJ, CARBON 10K(DECK B PB LEVEL)			
RV204	1-226-236-00	RES, ADJ, CARBON 10K(DECK B REC LEVEL)			
RV205	1-226-236-00	RES, ADJ, CARBON 10K(METER LEVEL)			
RV701	1-228-994-00	RES, ADJ, CARBON 10K(DECK A HIGH SPEED)			
RV702	1-228-994-00	RES, ADJ, CARBON 10K(DECK A NORMAL SPEED)			
RV703	1-228-994-00	RES, ADJ, CARBON 10K(DECK B HIGH SPEED)			
RV704	1-228-994-00	RES, ADJ, CARBON 10K(DECK B NORMAL SPEED)			
RY501	1-515-547-11	RELAY			
S301	1-554-168-00	SWITCH, SLIDE (DOLBY NR)			
S701	1-553-856-00	SWITCH, KEY BOARD (RECORD MUTING)			
S702	1-553-856-00	SWITCH, KEY BOARD (RECORD)			
S703	1-553-856-00	SWITCH, KEY BOARD (PAUSE)			
S704	1-553-856-00	SWITCH, KEY BOARD (FAST FORWARD)			
S705	1-553-856-00	SWITCH, KEY BOARD (PLAY)			
S706	1-553-856-00	SWITCH, KEY BOARD (STOP)			
S707	1-553-856-00	SWITCH, KEY BOARD (REWIND)			
S708	1-553-856-00	SWITCH, KEY BOARD (AMS/BLANK SKIP)			
S709	1-553-856-00	SWITCH, KEY BOARD (FAST FORWARD)			
S710	1-553-856-00	SWITCH, KEY BOARD (PLAY)			
S711	1-553-856-00	SWITCH, KEY BOARD (STOP)			
S712	1-553-856-00	SWITCH, KEY BOARD (REWIND)			
S713	1-553-856-00	SWITCH, KEY BOARD (NORMAL SPEED)			
S714	1-553-856-00	SWITCH, KEY BOARD (HIGH SPEED)			
S715	1-553-856-00	SWITCH, KEY BOARD (HEADPHONES)			
S716	1-554-078-21	SWITCH, SLIDE (PLAY)			
S717	1-554-168-00	SWITCH, SLIDE (TIMER)			
S907	1-554-410-00	SWITCH, LEAF			
S901	1-553-856-00	SWITCH, KEY BOARD			
S908	1-554-410-00	SWITCH, LEAF			
S902	1-553-856-00	SWITCH, KEY BOARD			
S903	1-553-856-00	SWITCH, KEY BOARD			
S904	1-553-856-00	SWITCH, KEY BOARD			
S905	1-553-856-00	SWITCH, KEY BOARD			
S906	1-553-856-00	SWITCH, KEY BOARD			
SP601	1-532-679-00	LINK, IC			
SP604	1-532-679-00	LINK, IC			
T501	1-433-267-00	TRANSFORMER, OSCILLATOR			
X701	1-527-802-00	OSCILLATOR, CERAMIC			
X702	1-527-532-00.	(TC-V33W)...OSCILLATOR, CERAMIC: 40kHz			

Sony Corporation

English

85E0287-1
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Ref.No.	Part No.	Description
Q703	8-729-900-65	TRANSISTOR DTA114ES
Q704	8-729-900-65	TRANSISTOR DTA114ES
Q705	8-729-900-65	TRANSISTOR DTA114ES
Q706	8-729-900-65	TRANSISTOR DTA144ES
Q707	8-729-900-65	TRANSISTOR DTA144ES
Q708	8-729-900-65	TRANSISTOR DTA144ES
Q709	8-729-900-65	TRANSISTOR DTA144ES
Q710	8-729-900-89	(TC-V33W)...TRANSISTOR DTC144ES
Q711	8-729-900-65	(TC-V33W)...TRANSISTOR DTA144ES
Q713	8-729-245-83	TRANSISTOR 2SC2458
Q714	8-729-900-65	TRANSISTOR DTA144ES
Q715	8-729-900-89	TRANSISTOR DTC144ES
Q716	8-729-900-61	TRANSISTOR DTA114ES
Q717	8-729-900-61	TRANSISTOR DTA114ES
Q718	8-729-800-83	TRANSISTOR 2SB808
Q719	8-729-800-83	TRANSISTOR 2SB808
Q720	8-729-811-22	TRANSISTOR 2SD1012
Q721	8-729-811-22	TRANSISTOR 2SD1012
Q722	8-729-180-92	TRANSISTOR 2SD809-K
Q723	8-729-900-65	TRANSISTOR DTA144ES
Q724	8-729-900-89	TRANSISTOR DTC144ES
Q725	8-729-900-61	TRANSISTOR DTA114ES
Q726	8-729-900-61	TRANSISTOR DTA114ES
Q727	8-729-800-83	TRANSISTOR 2SB808
Q728	8-729-800-83	TRANSISTOR 2SB808
Q729	8-729-811-22	TRANSISTOR 2SD1012
Q730	8-729-811-22	TRANSISTOR 2SD1012
Q731	8-729-180-92	TRANSISTOR 2SD809-K
Q732	8-729-900-65	TRANSISTOR DTA144ES
Q733	8-729-900-65	TRANSISTOR DTA144ES
Q734	8-729-900-65	TRANSISTOR DTA144ES
Q735	8-729-900-65	TRANSISTOR DTC144ES
Q736	8-729-900-65	TRANSISTOR DTA144ES
Q737	8-729-900-65	TRANSISTOR DTA144ES
Q738	8-729-204-83	TRANSISTOR 2SA1048-GR
Q739	8-729-204-83	TRANSISTOR 2SA1048-GR
Q741	8-729-245-83	TRANSISTOR 2SC2458
Q742	8-729-245-83	TRANSISTOR 2SC2458
Q743	8-729-900-65	TRANSISTOR DTA144ES
Q744	8-729-900-65	TRANSISTOR DTA144ES
Q745	8-729-900-65	TRANSISTOR DTA144ES
Q746	8-729-900-65	TRANSISTOR DTA144ES
Q747	8-729-245-83	TRANSISTOR 2SC2458
Q748	8-729-245-83	TRANSISTOR 2SC2458
Q766	8-729-101-02	TRANSISTOR PH102
Q767	8-729-101-02	TRANSISTOR PH102
Q801	8-729-900-89	TRANSISTOR DTC144ES
Q802	8-729-245-83	TRANSISTOR 2SC2458
Q803	8-729-900-65	TRANSISTOR DTA144ES
Q806	8-729-245-83	TRANSISTOR 2SC2458
Q807	8-729-900-89	TRANSISTOR DTC144ES
Q808	8-729-900-89	TRANSISTOR DTC144ES
Q809	8-729-900-89	TRANSISTOR DTC144ES
Q810	8-729-900-65	TRANSISTOR DTA144ES
Q811	8-729-900-65	TRANSISTOR DTA144ES

Ref.No.	Part No.	Description			
Q812	8-729-900-65	TRANSISTOR DTA144ES			
Q813	8-729-900-65	TRANSISTOR DTA144ES			
Q814	8-729-900-89	TRANSISTOR DTC144ES			
Q815	8-729-900-61	TRANSISTOR DTA114ES			
Q816	8-729-900-61	TRANSISTOR DTA114ES			
R101	1-247-839-00	CARBON	2.2K	5%	1/6W
R102	1-247-864-00	CARBON	24K	5%	1/6W
R104	1-247-879-00	CARBON	100K	5%	1/6W
R105	1-247-843-00	CARBON	3.3K	5%	1/6W
R106	1-247-851-00	CARBON	6.8K	5%	1/6W
R107	1-247-855-00	CARBON	10K	5%	1/6W
R108	1-247-889-00	CARBON	270K	5%	1/6W
R109	1-247-807-00	CARBON	100	5%	1/6W
R110	1-247-882-00	CARBON	130K	5%	1/6W
R111	1-247-849-00	CARBON	5.6K	5%	1/6W
R112	1-247-839-00	CARBON	2.2K	5%	1/6W
R113	1-247-841-00	CARBON	2.7K	5%	1/6W
R114	1-247-887-00	CARBON	220K	5%	1/6W
R115	1-247-839-00	CARBON	2.2K	5%	1/6W
R116	1-247-887-00	CARBON	220K	5%	1/6W
R117	1-247-833-00	CARBON	1.2K	5%	1/6W
R118	1-247-889-00	CARBON	270K	5%	1/6W
R119	1-247-807-00	CARBON	100	5%	1/6W
R120	1-247-882-00	CARBON	130K	5%	1/6W
R121	1-247-848-00	CARBON	5.1K	5%	1/6W
R122	1-247-839-00	CARBON	2.2K	5%	1/6W
R123	1-247-841-00	CARBON	2.7K	5%	1/6W
R124	1-247-887-00	CARBON	220K	5%	1/6W
R125	1-247-879-00	CARBON	100K	5%	1/6W
R128	1-247-871-00	CARBON	47K	5%	1/6W
R129	1-247-823-00	CARBON	470	5%	1/6W
R130	1-247-823-00	CARBON	470	5%	1/6W
R131	1-247-879-00	CARBON	100K	5%	1/6W
R132	1-247-835-00	CARBON	1.5K	5%	1/6W
R139	1-247-869-00	CARBON	39K	5%	1/6W
R140	1-247-846-00	CARBON	4.3K	5%	1/6W
R141	1-247-895-00	CARBON	470K	5%	1/6W
R142	1-247-822-00	CARBON	430	5%	1/6W
R143	1-247-841-00	CARBON	2.7K	5%	1/6W
R144	1-214-776-00	METAL	91K	1%	1/4W
R145	1-247-838-00	CARBON	2K	5%	1/6W
R146	1-247-871-00	CARBON	47K	5%	1/6W
R147	1-247-848-00	CARBON	5.1K	5%	1/6W
R148	1-247-820-00	CARBON	360	5%	1/6W
R149	1-247-845-00	CARBON	3.9K	5%	1/6W
R150	1-247-886-00	CARBON	200K	5%	1/6W
R151	1-247-887-00	CARBON	220K	5%	1/6W
R152	1-247-845-00	CARBON	3.9K	5%	1/6W
R153	1-247-887-00	CARBON	220K	5%	1/6W
R154	1-247-888-00	CARBON	240K	5%	1/6W
R155	1-247-888-00	CARBON	240K	5%	1/6W
R157	1-247-855-00	CARBON	10K	5%	1/6W
R158	1-247-831-00	CARBON	1K	5%	1/6W
R159	1-247-853-00	CARBON	8.2K	5%	1/6W
R160	1-247-843-00	CARBON	3.3K	5%	1/6W
R161	1-247-867-00	CARBON	33K	5%	1/6W
R162	1-247-879-00	CARBON	100K	5%	1/6W

Ref.No.	Part No.	Description			
R163	1-247-879-00	CARBON	100K	5%	1/6W
R164	1-247-887-00	CARBON	220K	5%	1/6W
R165	1-247-853-00	CARBON	8.2K	5%	1/6W
R166	1-247-867-00	CARBON	33K	5%	1/6W
R167	1-247-867-00	CARBON	33K	5%	1/6W
R168	1-247-843-00	CARBON	3.3K	5%	1/6W
R169	1-247-811-00	CARBON	150	5%	1/6W
R170	1-247-857-00	CARBON	12K	5%	1/6W
R171	1-247-809-00	CARBON	120	5%	1/6W
R172	1-247-841-00	CARBON	2.7K	5%	1/6W
R173	1-247-850-00	CARBON	6.2K	5%	1/6W
R174	1-247-815-00	CARBON	220	5%	1/6W
R175	1-247-841-00	CARBON	2.7K	5%	1/6W
R176	1-247-845-00	CARBON	3.9K	5%	1/6W
R177	1-247-867-00	CARBON	33K	5%	1/6W
R178	1-247-867-00	CARBON	33K	5%	1/6W
R179	1-247-843-00	CARBON	3.3K	5%	1/6W
R180	1-247-807-00	CARBON	100	5%	1/6W
R181	1-247-859-00	CARBON	15K	5%	1/6W
R182	1-247-809-00	CARBON	120	5%	1/6W
R183	1-247-837-00	CARBON	1.8K	5%	1/6W
R184	1-247-852-00	CARBON	7.5K	5%	1/6W
R185	1-247-815-00	CARBON	220	5%	1/6W
R186	1-247-849-00	CARBON	5.6K	5%	1/6W
R187	1-247-847-00	CARBON	4.7K	5%	1/6W
R188	1-247-855-00	CARBON	10K	5%	1/6W
R189	1-247-867-00	CARBON	33K	5%	1/6W
R190	1-247-865-00	CARBON	27K	5%	1/6W
R191	1-247-815-00	CARBON	220	5%	1/6W
R192	1-247-835-00	CARBON	1.5K	5%	1/6W
R193	1-247-869-00	CARBON	39K	5%	1/6W
R194	1-247-879-00	CARBON	100K	5%	1/6W
R195	1-247-847-00	CARBON	4.7K	5%	1/6W
R196	1-247-823-00	CARBON	470	5%	1/6W
R301	1-247-879-00	CARBON	100K	5%	1/6W
R302	1-247-861-00	CARBON	18K	5%	1/6W
R303	1-247-879-00	CARBON	100K	5%	1/6W
R304	1-247-855-00	CARBON	10K	5%	1/6W
R305	1-247-855-00	CARBON	10K	5%	1/6W
R306	1-247-878-00	CARBON	91K	5%	1/6W
R307	1-247-827-00	CARBON	680	5%	1/6W
R501	1-247-855-00	CARBON	10K	5%	1/6W
R502	1-247-857-00	CARBON	12K	5%	1/6W
R503	1-247-857-00	CARBON	12K	5%	1/6W
R504	1-217-529-00	FUSIBLE	33	5%	1/4W
R505	1-247-855-00	CARBON	10K	5%	1/6W
R506	1-247-843-00	CARBON	3.3K	5%	1/6W
R507	1-247-835-00	CARBON	1.5K	5%	1/6W
R508	1-247-849-00	CARBON	5.6K	5%	1/6W
R509	1-247-856-00	CARBON	11K	5%	1/6W
R510	1-247-855-00	CARBON	10K	5%	1/6W
R511	1-247-855-00	CARBON	10K	5%	1/6W
R512	1-247-855-00	CARBON	10K	5%	1/6W
R513	1-247-879-00	CARBON	100K	5%	1/6W
R514	1-247-879-00	CARBON	100K	5%	1/6W

Ref.No.	Part No.	Description			
R515	1-247-855-00	CARBON	10K	5%	1/6W
R516	1-247-871-00	CARBON	47K	5%	1/6W
R601	1-247-863-00	CARBON	22K	5%	1/6W
R602	1-247-863-00	CARBON	22K	5%	1/6W
R603	1-247-863-00	CARBON	22K	5%	1/6W
R604	1-247-863-00	CARBON	22K	5%	1/6W
R605	1-247-863-00	CARBON	22K	5%	1/6W
R606	1-247-863-00	CARBON	22K	5%	1/6W
R607	1-247-863-00	CARBON	22K	5%	1/6W
R608	1-247-863-00	CARBON	22K	5%	1/6W
R609	1-247-863-00	CARBON	22K	5%	1/6W
R610	1-247-863-00	CARBON	22K	5%	1/6W
R611	1-247-863-00	CARBON	22K	5%	1/6W
R612	1-247-863-00	CARBON	22K	5%	1/6W
R613	1-247-857-00	CARBON	12K	5%	1/6W
R614	1-247-840-00	CARBON	2.4K	5%	1/6W
R615	1-247-858-00	CARBON	13K	5%	1/6W
R616	1-247-839-00	CARBON	2.2K	5%	1/6W
R617	1-247-847-00	CARBON	4.7K	5%	1/6W
R618	1-247-826-00	CARBON	620	5%	1/6W
R619	1-247-839-00	CARBON	2.2K	5%	1/6W
R620	1-247-827-00	CARBON	680	5%	1/6W
R701	1-247-831-00	CARBON	1K	5%	1/6W
R702	1-247-831-00	CARBON	1K	5%	1/6W
R703	1-247-831-00	CARBON	1K	5%	1/6W
R704	1-247-831-00	CARBON	1K	5%	1/6W
R705	1-247-831-00	CARBON	1K	5%	1/6W
R706	1-247-831-00	CARBON	1K	5%	1/6W
R707	1-247-831-00	CARBON	1K	5%	1/6W
R708	1-247-863-00	CARBON	22K	5%	1/6W
R709	1-247-863-00	CARBON	22K	5%	1/6W
R710	1-247-863-00	CARBON	22K	5%	1/6W
R711	1-247-863-00	CARBON	22K	5%	1/6W
R712	1-247-863-00	CARBON	22K	5%	1/6W
R713	1-247-863-00	CARBON	22K	5%	1/6W
R714	1-247-863-00	CARBON	22K	5%	1/6W
R715	1-247-831-00	CARBON	1K	5%	1/6W
R716	1-247-831-00	CARBON	1K	5%	1/6W
R717	1-247-831-00	CARBON	1K	5%	1/6W
R718	1-247-831-00	CARBON	1K	5%	1/6W
R719	1-247-831-00	CARBON	1K	5%	1/6W
R720	1-247-831-00	CARBON	1K	5%	1/6W
R721	1-247-831-00	CARBON	1K	5%	1/6W
R722	1-247-863-00	CARBON	22K	5%	1/6W
R723	1-247-863-00	CARBON	22K	5%	1/6W
R724	1-247-863-00	CARBON	22K	5%	1/6W
R725	1-247-863-00	CARBON	22K	5%	1/6W
R726	1-247-863-00	CARBON	22K	5%	1/6W
R727	1-247-863-00	CARBON	22K	5%	1/6W
R728	1-247-863-00	CARBON	22K	5%	1/6W
R729	1-247-807-00	CARBON	100	5%	1/6W
R730	1-247-819-00	CARBON	330	5%	1/6W
R731	1-247-815-00	CARBON	220	5%	1/6W
R732	1-247-807-00	CARBON	100	5%	1/6W
R733	1-247-807-00	CARBON	100	5%	1/6W
R734	1-247-807-00	CARBON	100	5%	1/6W
R735	1-247-807-00	CARBON	100	5%	1/6W